US 395

Spokane to Stevens County Line

MP 172.00 to MP 183.69

ROUTE DEVELOPMENT PLAN

Washington State Department of Transportation

Route Development Plans are planning studies developed to identify deficiencies and propose solutions on state highway facilities. The studies include analysis of operating conditions, environmental issues, population and land use changes, as well as right-of-way and other issues affecting the future of a state highway and its neighbors.

The route development process identifies the transportation services desired by our customers, determines competing demands, and integrates the findings into a common vision for the entire transportation system. It is a process that supports investment decisions.

Living documents integrating transportation needs and discussions between Washington State Department of Transportation and communities, route development plans are periodically updated to address and reflect changing issues along a corridor.

Washington State Department of Transportation

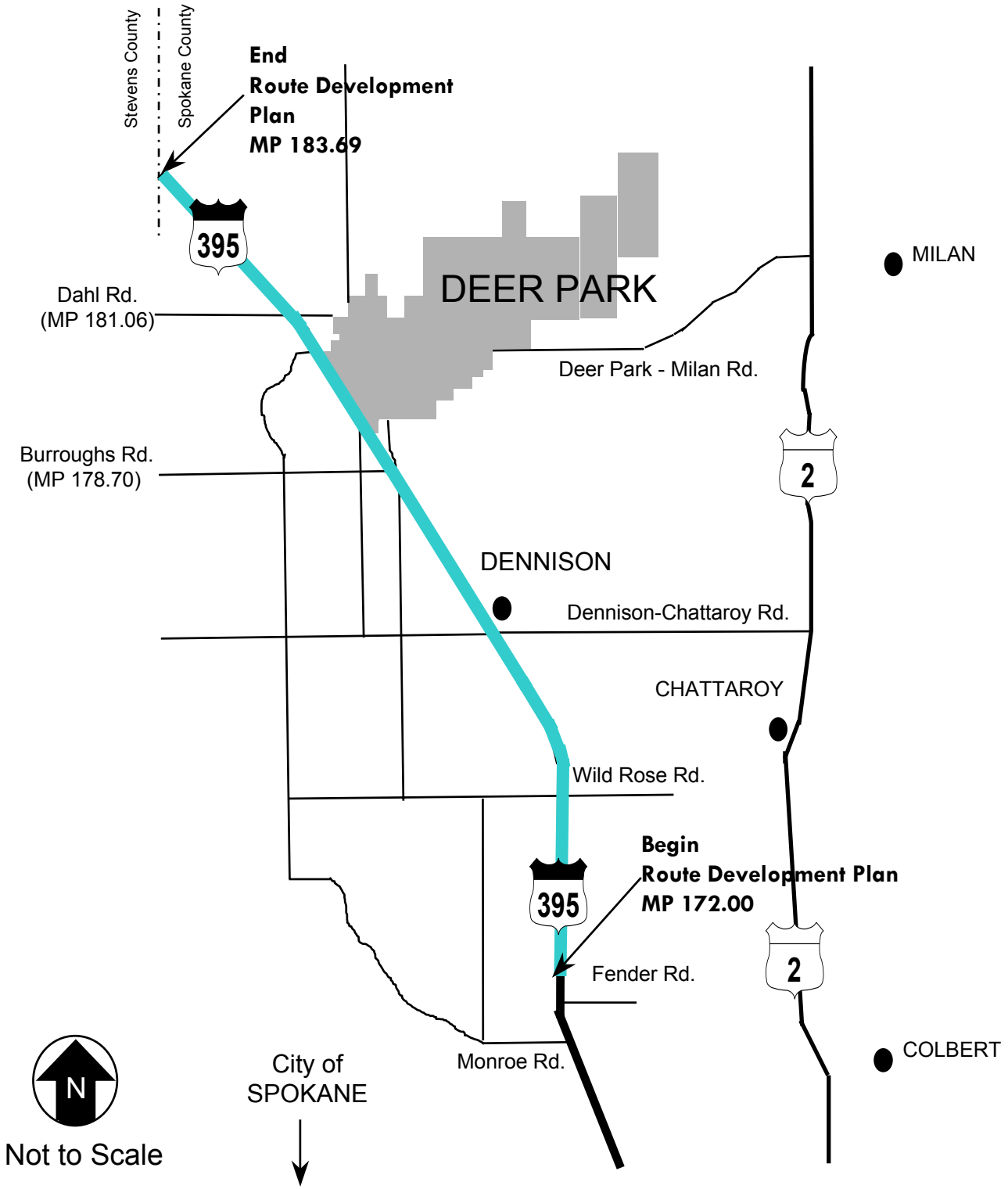
Eastern Region
2714 North Mayfair Street
Spokane, WA 99207-2090

J. C. Lenzi, Region Administrator

Mark Rohwer, Eastern Region Planning Manager

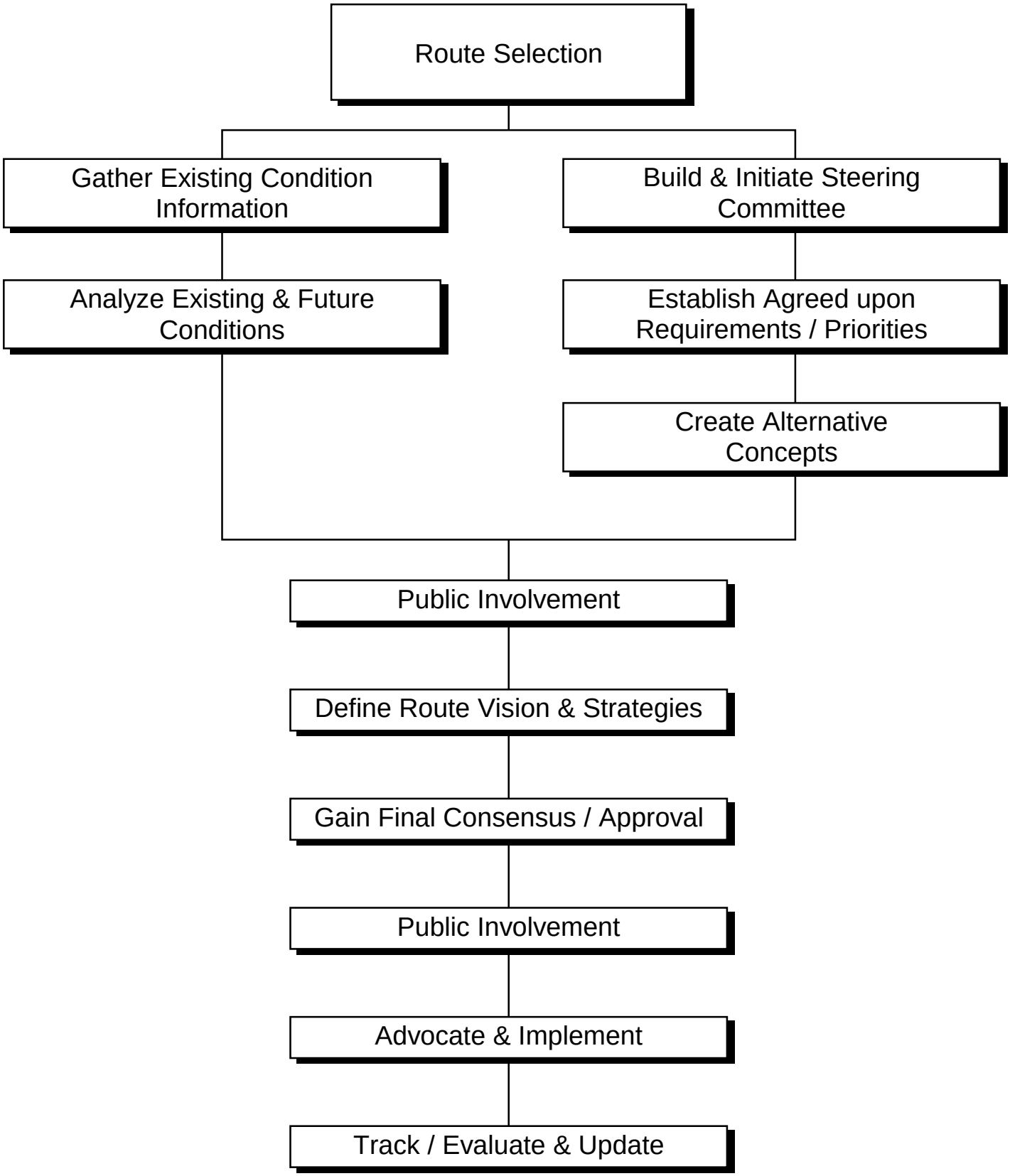
Eastern Region Route Development Team

US 395
ROUTE DEVELOPMENT PLAN
Spokane to Stevens County Line
MP 172.00 to MP 183.69



Vicinity Map

ROUTE DEVELOPMENT PLAN PROCESS



Executive Summary

Eastern Region

***US 395* Route Development Plan**
Spokane to Stevens County Line

Route Development Plan Location

This Route Development Plan (RDP) addresses a segment of US 395, *a high priority corridor* National Highway System (NHS) route, that is a two lane undivided highway located in Spokane County. Beginning approximately seven miles north of the City of Spokane, in the vicinity of Fender Road, this segment extends adjacent to the westerly boundary of the City of Deer Park and terminates at the Stevens County/ Spokane County line. The milepost limits are MP 172.00 to MP 183.69.

Purpose and Need

Route Development Plans (RDPs) are planning studies on state highway facilities that identify deficiencies and propose solutions. *The route development plan process identifies the transportation services desired by our customers, determines competing demands, and integrates the findings into a common vision for the entire transportation system. It is a process that supports investment decisions.*

US 395, currently a significant rural-principal arterial serving the northeast corner of Washington State, provides a major strategic north-south international link in the western United States that facilitates the transportation of people and goods between the US/ Mexico and the US/ Canada borders. As a *Highway of Statewide Significance,* this facility supports an array of transportation demands including international, interstate, and interregional commerce, coupled with it's service as a major commuter route connecting the metropolitan City of Spokane to rapidly developing northern residential communities. The following issues have evolved along this segment of the US 395 corridor, as a result of it serving such an array of transportation stakeholders:

- Increasingly *high truck percentages*,
- Increasing *traffic volumes*,
- Diminishing *capacity* and associated *Level of Service,*
- Significant changes in adjacent *land use*, and
- Increasing *accident frequency and severity*.

Recommendations

To accommodate existing and projected growth, this plan recommends providing a four lane divided alignment the entire length of the segment by:

- Constructing two additional lanes to serve southbound traffic,
- Generally maintaining the existing alignment to serve northbound traffic,
- Preserving the existing US 395 alignment in the vicinity of Deer Park to serve as a local access road east of proposed US 395 alignment, and
- Constructing an elevated four lane embankment segment in the vicinity of Deer Park.

To enhance safety and preserve capacity along the highway segment, the plan recommends:

- Separating opposing traffic lanes by constructing a 60-foot wide rural median the entire length of the project limits.
- Managing access to US 395 the entire limits of the RDP. The plan recommends acquiring full access control as early as possible for the entire plan limits and implementing full access control measures as interchanges, local access roads, and other capacity improvements are constructed.
- Identifying and developing existing roadways to serve as a network of local access roads providing access to locations adjacent to US 395.
- Providing parallel local access roads on both sides of US 395 for the majority of the City of Deer Park vicinity.
- Maintaining access to adjacent development east and west of US 395 by constructing the following:

  Half Moon Road MP 173.09
  Interim - At Grade Crossing
  Proposed - Grade Separated Interchange (MP 173.50 Vicinity)

  Wild Rose Road MP 174.10
  Interim - At Grade Crossing

  Staley/Dennison-Chattaroy Road MP 176.32
  Interim - At Grade Crossing
  Proposed - Grade Separated Interchange

Burroughs/Dalton Roads Under-*crossing*	MP 178.70
Short Road / Main Street *Over-crossing US 395*	MP 179.46
Cleveland Road /H Street *Over-crossing US 395*	MP 179.89
Monroe / Crawford Roads *Over-crossing US 395*	MP 180.46
Spotted Road *Interim - At Grade Crossing* *Long Range - Grade Separated Interchange*	MP 182.82

Potential Impacts

Existing Facilities

The construction of improvement strategies recommended in this RDP will result in impacts to Bridge 395/460, located at Dragoon Creek at MP 180.43 and impacts to Truck Weigh Station Number 65, located southbound on US 395 at MP 182.09. Impacts to private land uses adjacent to the existing highway are also anticipated, as illustrated in the schematic drawing of the recommended alternative. The RDP proposes acquiring right of way primarily west of US 395 to accommodate the recommended improvements, and to maintain the existing alignment to serve as the proposed northbound alignment.

The recommended alternative will not impact the existing Bonneville Power Administration (BPA) substation in the vicinity of Dahl Road or the Woodland Cemetery located at Monroe Road.

Environmental

The proximity of existing wetlands to existing right of way will result in unavoidable wetland impacts. The recommended alternative will impact existing wetlands to some degree. *(See Environmental Issues section)*

Commitment

During implementation of the above recommendations, WSDOT will strive to employ design elements that are sensitive and reflective of the vicinity and surrounding environment with context sensitive design. Context-sensitive design, supported by the provisions in ISTEA, NHS Act, and TEA –21, seeks to balance transportation goals and community values.[i] This concept will encourage designers to balance the transportation goals of mobility and safety with community values by enhancing and preserving the City of Deer Park's and neighboring communities' cultural resources, while not establishing any new geometric standards or criteria.

Planning at the WSDOT is a continual, evolving, and flexible process that seeks to facilitate the development and implementation of sound and innovative strategies, incorporating the dynamic issues and needs that face our transportation system. The goal of WSDOT planning is to create an integrated transportation system capable of supporting a vital economy, vibrant communities, and a sustainable environment. We endeavor to accomplish this goal by integrating the needs of WSDOT with those of stakeholders including cities, counties, the public, Metropolitan Planning Organizations (MPOs), and Regional Transportation Planning Organizations (RTPOs).

We believe this RDP, the cumulating of the US 395 Corridor Study and Environmental Assessment, coupled with applicable flexibility will provide the framework for a safe and coordinated transportation system along US 395 that serves the public within the Eastern Region and Washington State. As a long range plan, this RDP will provide guidance for development of the Eastern Region's project programming and assist the Eastern Region's Development Service Team in defining future projects for possible developer participation. This RDP will be updated periodically to reflect changing needs and concerns.

We welcome your comments and input on this and future Route Development Plans.

Please contact us:

Washington State Department of Transportation
EASTERN REGION PLANNING
Route Development Team
2714 Mayfair Street
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(509) 324-6194 or (509) 324-6195

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Introduction

Eastern Region

US 395 Route Development Plan
Spokane to Stevens County Line

Goal of Route Development Plans

Route Development Plans (RDPs) are planning studies on state highway facilities that identify deficiencies and propose solutions. *The route development plan process identifies the transportation services desired by our customers, determines competing demands, and integrates the findings into a common vision for the entire transportation system. It's a process that supports investment decisions.* RDPs are "living documents" that are periodically updated to identify and analyze operating conditions, environmental issues, population, land use issues, including right-of-way and other issues affecting the future or state highway corridors and adjacent neighbors. This study serves as a tool for discussion, a mechanism to integrate the needs of the Department of Transportation with the needs of cities, counties, traveling public, and other stakeholders in the development of transportation solutions.

Route Development Plans identify proposed improvements on a designated section of a state highway that will accommodate safety and capacity requirements during the next 20 years. The RDP process integrates various elements to produce an endorsed highway design solution. The RDP process involves several phases, including data collection, public meetings, interagency liaison, traffic analysis, the RDP proposal, and review comments. This plan is part of the Washington State Department of Transportation (WSDOT) Eastern Region long-range planning program and is intended to support local jurisdictions in the implementation of the Growth Management Act (GMA) *RCW 36.70A*. This long range plan will provide:

- Guidance for regional decision makers regarding future projects on this state route;
- Direction for the determining possible mitigation measures for proposed developments;
- Inclusion of improvement solutions in the State Highway System Plan;
- Guidance for interim projects to ensure the progression towards the long-range objectives;
- Coordination with various stakeholders on the future development of this state route; and
- Adoption in region land use plans.

State Transportation Policy

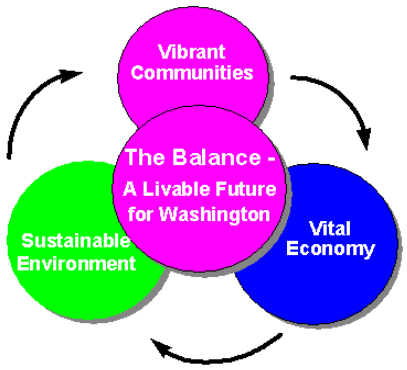
Purpose of Washington State Transportation System

The purpose of Washington's transportation system is to provide safe, efficient, dependable, and environmentally responsible transportation facilities and services to:

- Promote a positive quality of life for Washington citizens.
- Enhance the economic vitality of all areas of the state.
- Protect the natural environment and improve the built environment.

Vision

The vision supports a long term transportation focus to sustain and promote a balance of the state's vibrant communities, strong economy, and healthy environment.



VISION MODEL

An efficient and coordinated network of transportation facilities in Washington State, moving both people and goods, is vital to sustain and promote a balance of the region's vibrant communities, strong economy, and healthy environment.

WSDOT Eastern Region Mission

Together we efficiently build, maintain, operate and promote safe, coordinated, and environmentally responsible transportation systems to serve the public within the Eastern Region.

Stakeholders' Vision for US 395

As early as 1926, US 395 was designated a US highway and considered important to the region. US 395, a significant highway in the western United States, provides a major north-south link between the Mexican and Canadian borders. The relaxation of trade barriers via the North American Free Trade Agreement (NAFTA) and the General Agreement on Tariff and Trade (GATT) between the United States, Mexico, and Canada affirms US 395 as an important transportation entity in the nation's goal to improve our economic climate. The segment of US 395 addressed in this plan not only facilitates international and interstate traffic, but also serves as a primary arterial through the City of Deer Park, and a major commuter route connecting the Spokane community to rapidly developing northern residential areas.

This Route Development Plan outlines a vision for the future development of the segment of US 395 addressed in this plan. The plan provides collaboratively derived improvement strategies for mitigating existing and projected transportation deficiencies on this segment of the corridor.

US 395 Trend Analysis

While our existing transportation facilities have been able to meet travel needs, the reality is – many of the facilities were constructed to accommodate past populations. To ensure an efficiently operating network of transportation facilities capable of meeting the demands of the future, it is vital to plan for inevitable growth. The City of Deer Park adjacent to US 395 within the RDP limits is experiencing such growth. As a result of a 30.82% population increase between 1990 and 2000, Deer Park is currently ranked the 66th fastest growing city of 197 Washington State municipalities with populations less than 5,000.[ii] Deer Park's 2.63% average annual population growth rate over the past ten years, surpasses that of both Spokane County and Washington State with growth rates of 1.37% and 1.74%, respectively. The City of Deer Park projects it's population to increase from 2,750 as witnessed in the year 1995 to 5,500 by year 2015[iii].

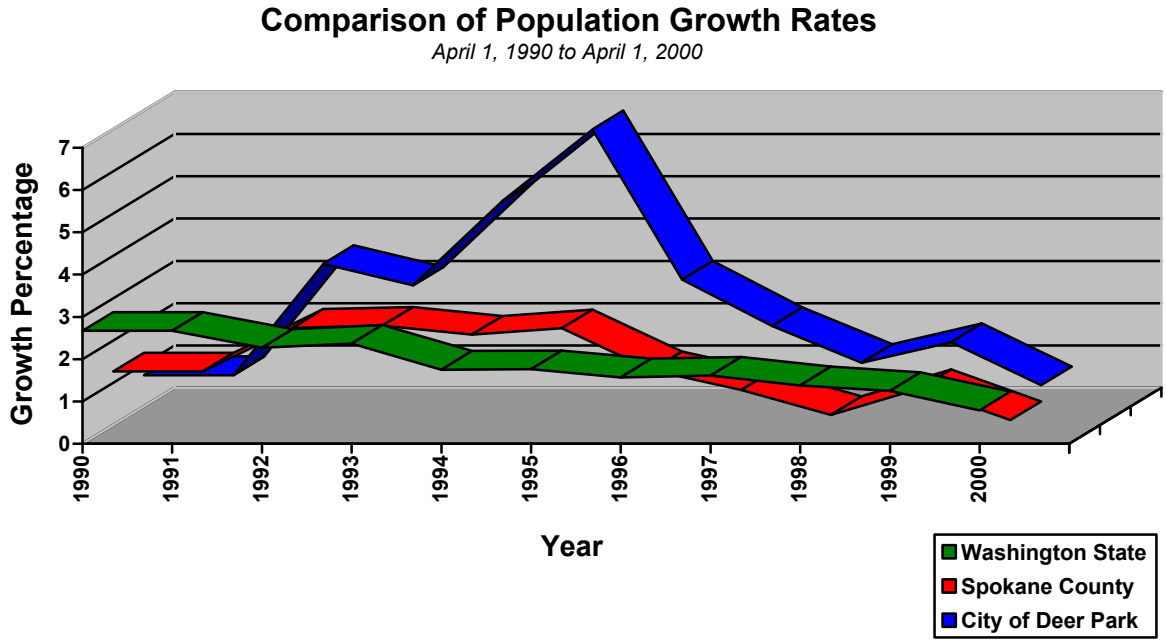


Figure 1

A steady growth in population over the past ten years has evoked rapid commercial development along US 395 in the Deer Park vicinity. Trend analysis indicates that there is a direct correlation between population and traveled miles – typically increased population results in increased traveled miles. The anticipated population growth in this vicinity is expected to place new demands on the US 395 corridor including increased capacity and ingress/egress traffic movements particularly at city and county road intersections with US 395 in the vicinity of Deer Park.

Traffic demands on this corridor can also be attributed to the agricultural, food product, forestry, mining/smelting, chemical, and glass industries. The findings of an extensive study of freight movement on major Washington State highways identified on average 202 trucks per day transported approximately 3,160 tons of cargo southbound US 395 in the years 1993 and 1994 in the vicinity of Deer Park. Originating north of the City of Deer Park on US 395 many were in transit to destinations beyond Spokane metropolitan area. As presented in the *Corridor and Border Infrastructure and Development and Management Plan*, nearly

two thirds of the recorded cargo and more than 70 percent of the cargo value in transit along the US 395 Corridor is passing through eastern Washington State. This cargo represents approximately $1.8 million dollars per day in economic value to the region, equating to over $500 million dollars per year.[iv] The following figure illustrates the observed truck percentages between years 1988 and 1998.

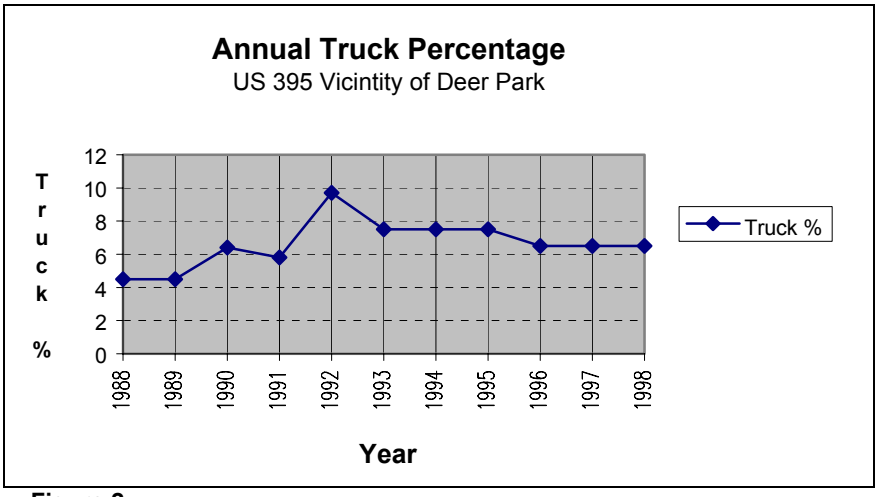


Figure 2

Stakeholder and Public Involvement Process

Eastern Region Route Development Public Participation

A public involvement process for route development plans has been tailored to promote open exchange of information, ideas, and solutions between WSDOT, the public, and stakeholders.

We have incorporated the following public involvement elements during the development of this route development plan:

- Clearly-defined purpose and objectives for initiating public dialogue on specific RDPs *(Establish early and ongoing participation opportunities in the RDP process);*
- Identify the specific affected public and stakeholder groups, in respect to the proposed RDP;
- Implement notification procedures which will successfully target affected groups;
- Determine the specific techniques for engaging the public in regards to the specific RDP:
    - Distribute information and provide presentations in an easy to understand format to promote understanding and facilitate participation effectively in the development processes;
    - Hold focus group meetings describing the RDP process;
    - Invite the community, businesses, and civic organizations to assist in identifying short and long-term transportation challenges in the community;
    - Present identified challenges to public agencies, who are stakeholders in the specific RDP process for collaborative solutions;
    - Explore and test an array of innovative public participation methods that educate, provide assistance, and promote better involvement by the largest number of citizens possible; and
    - Implement techniques that encourage accurate and full public understanding of the transportation issue, the formation of potential solutions, and the identification of obstacles and opportunities within various solutions.

Plan Development

This route development plan was developed in the following phases:

Phase 1 Collect data: inventory existing conditions, including route deficiencies, identification of future needs, existing and projected Level of Service (LOS).

Examine route continuity along the segment.

Facilitate public involvement when identifying deficiencies and future improvements.

Phase 2 Form an internal WSDOT Eastern Region steering committee to focus the efforts of this route development plan. The team includes representation from Planning, Program Management, Construction, Traffic, Local Programs, Project Development, and Maintenance.

Phase 3 Identify routed deficiencies and develop design alternatives. Evaluate alternatives and present to stakeholders.

Phase 4 Facilitate public involvement in the development of transportation solutions for the segment.

Coordinate land use planning with transportation needs.

Compile data and complete RDP.

Phase 5 Evaluate and strengthen process.

Stakeholder Involvement

The RDP recommendations were developed over a span of several years between 1994 and 2000. During the US 395 Corridor Study process, an Advisory Team was developed to ensure the solutions reflect a coordinated and inclusive effort. This dynamic team whose membership changed as necessary to address developing issues and concerns was comprised of individuals from the following disciplines:

U. S. Customs Service	Colville Indian Tribe
US Immigration Service	Spokane Indian Tribe
Spokane County	Kalispell Indian Tribe

Steven County	Department of Natural Resources
Ferry County	Bulk Systems
City of Spokane	Boise Cascade
City of Deer Park	Delcan Corporation
City of Chewelah	Puget Sound Truck Lines Inc.
City of Colville	Washington Water Power Co. (Avista)
City of Kettle Falls	Johnson Hardware – Deer Park
Town of Marcus	Vaagan Brothers Lumber Company
Town of Northport	Deep Lake – Boundary – Aladdin Road Residents Associations
Spokane Regional Transportation Council	Project 395
British Columbia Ministry of Highway & Transportation	Williams Lake Neighbors
Tri-County Regional Transportation Planning Organization	

Members of the City of Deer Park Citizens Advisory Committee, including City of Deer Park officials, business owners and residents, were involved in the development of alternatives in the Deer Park vicinity. US 395 stakeholders were continuously involved in the development of improvement strategies along this segment of US 395. The following highlights facilitated opportunities for participation:

Open House December 3, 2001

Focus Group - *Adjacent property and business owners* June 13, 2001

Citizen Advisory Committee Meetings

November 29, 2001	April 23, 2001
October 22, 2001	April 4, 2001
September 13, 2001	March 19, 2001
May 23, 2001	February 21, 2001
May 9, 2001	

Local Agency – City of Deer Park May 17, 2000

Public open houses

May 21, 1996	December 1994
May 16, 1995	August 1994
April 1995	April 19, 1994
February 21, 2001	

Route Development Plan Endorsement June 2002

Plan Sources & Consistency

Eastern Region

US 395 Route Development Plan

Spokane to Stevens County Line

Plan Sources & Consistency

This route development plan includes data gathered from the following sources:

US 395 Intersections/Geometric Features	Transportation Information and Planning Support (TRIPS): State Highway Log/Planning Report
Freight Mobility/ Tonnage Class	Eastern Washington Intermodal Transportation Study (EWITS) Freight and Goods Transportation System (FGTS) Map North Spokane Truck Study 1995
Functional Class/Level of Development	Washington State Pavement Management System (WSPMS)
Land Use/Zoning	Spokane County Zoning Maps City of Deer Park Map/ Comprehensive Plan and Amendments
Access Management/Control	Limited Access Route Listing Access Management Classification Report
Traffic Data and LOS 1995/2020	TRIPS: Data from Trans Data Office, OSC WSDOT Eastern Region Planning
Deficiencies/Future Needs	State Highway System Plan (SHSP) Priority Tracking System (PATS) Bridge Preservation Report

Consistency with Other Plans, Policies, and Procedures

The RDP recommendations are consistent with the following plans:

- City of Deer Park Comprehensive Growth Management Plan 1997
- Deer Park Business Quality of Life – An Economic Strategic Plan 1998
- US 395 Corridor Study - Spokane to Canada July 1995
- North Spokane Truck Study July 1995
- Spokane County Comprehensive Plan - Draft 2000 Not Adopted
- Corridor and Border Infrastructure Development and Management Plan September 1998
- US Canadian Border Crossing Study January 1999
- US 395 Environmental Assessment August 1999
- WSDOT Design Manual
- AASHTO Geometric Design Guidelines 1990

Location & Functional Classification

Eastern Region

US 395 Route Development Plan

Spokane to Stevens County Line

Route Development Plan Limits

This plan addresses a segment of US 395 located in Spokane County. The limits of the study begin in the vicinity of MP 172.00 (Fender Road Vicinity), approximately seven miles north of the City of Spokane and end in the vicinity of Stevens County Line at MP 183.69 (Spotted Road Vicinity).

Purpose and Function of Highway

The primary purpose of the US 395 corridor is to facilitate transportation of people and goods in the western United States between the Mexican border on the south and the Canadian border on the north. The segment of US 395 addressed in this plan also serves as a major commuter link between metropolitan Spokane and the urban area of the City of Deer Park, providing access to residential development along the route. Further north US 395 connects the cities of Chewelah, Colville, and Kettle Falls. The state functional classification for this segment of US 395 is *Rural Principal Arterial*. WSDOT is currently exploring Federal Interstate designation of US 395 in the vicinity of MP 169 (Hatch Road) to MP 182.82 (Spotted Road). Interstate designation will denote this segment as a facility of significant importance to the development of the national highway system.

National Highway System

The US 395 corridor has been placed in the forefront as a high priority corridor National Highway System (NHS) route under the national Intermodal Transportation Efficiency Act of 1991 (ISTEA as a result of supporting of the following array of transportation demands:

- Service to the City of Spokane, a major population center;
- Provision of a strategic international border crossing at Canada;
- Considerable support of international, interstate and interregional commerce; and
- Responsibility as the only principal north-south arterial serving the northeast corner of Washington State.

Highway of Statewide Significance

Washington State Growth Management Act as amended by House Bill 1487, commonly known as the Level of Service (LOS) legislation, identifies transportation facilities of statewide significance as essential public facilities. The interstate highway system and interregional state principal arterials, transportation facilities identified as having statewide significance, are granted higher priority for investments.

Service Objectives &

Action Strategies

Eastern Region

US 395 Route Development Plan
Spokane to Stevens County Line

The current Functional Classification of US 395 as a Principal Arterial has resulted in the route's designation as a Highway of Statewide Significance.

In lieu of the 1990 WSDOT Level of Development Plan, service objectives and action strategies were established in 1995 to prioritize the implementation of projected improvements and maintenance on state highways.

The objectives and strategies are arranged under the following defined programs:

- *Maintenance (Program M)* - Maintain state highways on a daily basis to ensure safe, reliable, and unobstructed movement of people and goods.
- *Preservation (Program P)* - Preserve the highway infrastructure cost effectively to protect the public investment.
- *Traffic Operations (Program Q)* - Operate the highway transportation system safely and efficiently.
- *Improvements (Program I)* - Seeks to enhance the highway system through the following specific subprograms:

  Mobility - Improve mobility within congested highway corridors.

  Highway Safety - Provide the safest possible highways within available resources.

  Economic Initiatives - Support efficient and reliable freight movement. Support tourism development and other Washington industries. Reinforce the state's competitive position in international trade. Address heritage resources within state right of way along scenic and recreational highways in alignment with Corridor Management Plans.

  Environmental Retrofit - Retrofit state highway facilities as appropriate to reduce existing environmental impacts.

The implementation of these objectives and strategies are guided by design matrices that provide standards for the design of proposed improvements and maintenance on state highways. The design levels addressed in the matrix procedures are:

- Basic Design Level (B)
- Modified Design Level (M)
- Full design Level (F)

Matrices are selected based on the route type (i.e. Interstate, NHS, or non-NHS), and the project type (i.e., preservation or improvement).

US 395 is a designated part of the National Highway System (NHS). In accordance with WSDOT Design Manual Section 440, the design elements and provisions for the RDP segment of US 395 will be in conformance with Full Design Level standards.

Access Management & Limited Access Control Classifications

Eastern Region

***US 395* Route Development Plan**
Spokane to Stevens County Line

History of the Access Management Plan

Access management is a technique, a tool used to protect the carrying capacity of highways and to improve highway safety. Using this tool safety and capacity improvements are accomplished by minimizing disruptions to through traffic by selectively limiting and spacing approaches to the facility, managing the roadway median, and managing turning traffic.

In 1991 the Washington State Legislature passed the "Highway Access Management Law," Revised Code of Washington (RCW) Chapter 47.50, requiring WSDOT to establish:

- An administrative application process for gaining access from private property to state highways and established access permit fees, and
- A set of five classifications for non-limited-access highways.

To fulfill this mandate WSDOT established Washington Administrative codes (WAC) 468-51 and WAC 468-52, to describe the access management process used by WSDOT, and to establish an access control classification system and standards, respectively.

Access control is a practice that coordinates traffic engineering and land use regulatory techniques. It seeks to balance the desires and access rights of adjacent property owners with the need of the traveling public to have a smooth traffic flow. Access control proportionately correlates these needs to various factors including development level, speed limit, and the functional classification of the highway. Primarily established to preserve the safety and operational characteristics of specific highways and to preserve the public investment, access is controlled in two ways: by acquiring rights of access from abutting property owners and by selectively limiting approaches to the facility.

Access Control Criteria

Full Access Control Criteria

Fully controlled access highways provide almost complete freedom from disruption by permitting access connections only through interchanges at selected public roads, rest

areas, viewpoints, or weighing stations, and by prohibiting all crossings and private connections at grade. *I-90 is an example of a fully controlled access highway.*

Partial Access Control Criteria

Partial access control may be established when warranted on highways other than Interstate. Partial control provides a considerable degree of protection from traffic interference and protects the highway from future strip-type development. Access control on partially controlled highways is exercised to the degree that, in addition to connections with selected public roads, some crossings and private driveway connections may be permitted at grade. Commercial approaches are not allowed within the limits of partial access control. *US 195 from Idaho State Line to Uniontown (MP 0.00 to MP 4.99) is an example of a partially controlled access highway.*

Modified Access Control Criteria

Modified access control is intended to prevent further deterioration in the safety and operational characteristics of existing highways due to traffic interference associated with strip development by limiting the number and location of access points to the highway. In general, modified access control is applied where some degree of control is desired, but existing and potential commercial development preclude the implementation of partial or full control. *US 2 from Nevada Street to Day-Mt. Spokane (MP 285.89 to MP 290.07) is an example of a highway with modified access control.*

Access Management Plan Classifications

The five access management classifications assigned to state highways as established in 1991 legislation, reflect the varying characteristics and functional purposes of state highways. These classifications are implemented when access is not limited and access rights have not been acquired. Factors that were considered in developing the classifications are: traffic volume, speed limit, adjacent land use, functional classification, and existing access density.

The goals of these classifications are accomplished with measures that minimize disruption to through traffic. The measures may include selectively limiting approaches to roadway, managing the roadway median, and managing turning movements. The following provides a brief description of the characteristics of the five different access classifications as described in the *WSDOT Access Management Plan*.

Class 1 Facility

- High speed, high traffic volumes, long trips
- Restrictive median required on multi-lane facilities
- Planned intersection spacing approximately 1 mile
- Minimum private connection spacing approximately 1320 feet
- Private direct access to the state highway shall not be allowed except when the property has no other reasonable access to the general street system.

Class 2 Facility

- Medium to high speeds, medium to high traffic volumes, medium to long trips
- Restrictive median required on multi-lane facilities
- Planned intersection spacing approximately 1/2 mile
- Minimum private connection spacing approximately 660 feet
- Private direct access to the state highway shall not be allowed except when the property has no other reasonable access to the general street system.

Class 3 Facility

- Moderate speeds, moderate traffic volumes, short trips
- Balance between land access and mobility
- Median constructed of curbed asphalt or landscaped traffic islands
- A center two-way left-turn lane may be used as warranted
- Planned intersection spacing approximately 1/2 mile
- Minimum private connection spacing approximately 330 feet

Class 4 Facility

- Moderate speeds, moderate traffic volumes, short trips
- Balance between land access and mobility
- Two-way left-turn lane is typically used
- Planned intersection spacing approximately 1/2 mile
- Minimum private connection spacing approximately 250 feet

Class 5 Facility

- Low to moderate speeds, moderate to high traffic volumes, short trips
- Highest service to land access
- Planned intersection spacing approximately 1/4 mile
- Minimum private connection spacing approximately 125 feet

In conformance with RCW 47.50, US 395 is an accessed controlled facility. The goal of this law is to establish levels of access management that will preserve the safety and operational characteristics of the highway. Limited access rights have not been acquired between MP 172 and Hamilton Road (MP 171.94 and MP 176.92). This segment of US 395 is assigned access management classification 2. During the late 1950's and early 1960's WSDOT purchased limited access rights for partial access control management measures between Hamilton Road to Stevens County Line (MP 176.92 to MP 183.69).[v] The RDP recommends early acquisition of full access control the entire length of the segment in accordance with Washington Administrative Code (WAC) 468 and the WSDOT Access Control Design Policy.

US 395 ACCESS MANAGEMENT CONTROL & CLASSIFICATION TABLE

Mile Post		Right/		EXISTING Access	PROPOSED Access		
Begin	End	Left	Description	Control	Control	Land Use	Terrain
171.94	176.92	Both	MP 172 to Hamilton Rd	Class 2	Full	Agriculture	Rolling
176.92	179.90	Both	Hamilton Rd to Deer Park	Partial	Full	Agriculture	Rolling
179.90	179.97	Both	City of Deer Park	Partial	Full	Commercial	Level
179.97	183.69	Both	Deer Park to Stevens Co. Line	Partial	Full	Agriculture	Rolling

Table 1

While WSDOT is striving to acquire full access as early as possible, implementation may occur in stages as highway project development occurs along this corridor.

Roadside Master Plan

Eastern Region

***US 395* Route Development Plan**
Spokane to Stevens County Line

Roadside Master Plan

A Roadside Master Plan (RMP), based on a 20 year planning horizon, outlines roadside management guidelines for a route or segment of a route where conditions require coordination, planning, design, construction, and maintenance with anticipated route development, construction activities, environmental or other commitments, and/or special route designation. The RMP identifies elements along the corridor, sets parameters, provides guidance and makes recommendations for resource management that are compatible with the Roadside Classification Master Plan. Preparation of a RMP during the planning process is recommended when a RDP is scheduled.

Resources for development of a RMP have not been allocated, therefore a general description of the roadside master planning concept and conditions pertaining to the subject segment of US 395 is included in this plan.

Management of the Roadside

The “roadside” encompasses the area between the roadway pavement edge and right of way boundaries, including median strips and auxiliary facilities such as rest areas, roadside parks, viewpoints, historic markers, pedestrian and bicycle facilities, wetland mitigation areas, park & ride lots, and maintenance facilities adjacent to the roadway. WSDOT is responsible for the stewardship of 7,047 miles of state roadway along with auxiliary facilities.

WSDOT manages state roadsides to fulfill three functions:

Operational functions, such as access control, clear zone, sight distance, roadway delineation, signing, trails and bikeways, and utility accommodation, to provide safe and multi-use roadsides.

Environmental functions, such as water quality, wetland and sensitive area protection, noxious weed control, noise control, habitat preservation, air quality improvement, and erosion control, to protect the natural environment and enhance the built environment.

Visual functions, such as scenic view preservation, distraction screening, roadway and adjacent property buffering, and provisions for aesthetic harmony, to support the roadside operational and environmental functions and promote a positive quality of life.[vi]

The character of the roadside is classified from the roadway user's visual perspective of landscape. "Natural" and "built" are the two major roadside categories.

Natural character *describes landscapes in which vegetation and landforms are predominant and the presence of human elements and structures are rare or insignificant in the overall context. Natural character includes the forest and open roadside classifications (WSDOT Roadside Classification Plan, 1996).*

In the ***open*** *landscape sky and sweeping views prevail in a landscape of few or no trees, including prairie, grassland, desert, and agricultural fields.*

US 395
MP 172.97
Open

Built character *describes landscapes in which human elements and structures are notable or predominant in the overall context. Built character includes the rural, semi-urban, and urban roadside character classifications (WSDOT Roadside Classification Plan, 1996).*

Human elements and structures are ever present in landscapes with **built character.**

Rural *landscape, characterized by intermixed built and natural or naturalized elements, shows beginning evidence of built elements and human encroachment on the natural environment.*

US 395
MP 179.74
Rural

Open landscape, predominantly agricultural, is prevalent in the beginning of the RDP section of US 395. Evidenced by sporadic residential and commercial development, the landscape transforms into rural as one approaches the vicinity of the City of Deer Park. Spokane County has established and approved Urban Growth Area and Urban Reserve boundaries, in the vicinity of the city limits, which enables commercial development of the landscape west of US 395. The community is also currently experiencing rapid commercial development east of the highway.

The characteristics of US 395 in the study area fall within both categories and result in the following sub-classification:

US 395 Roadside Character Classification

Begin Mile Post	End Mile Post	Character Classification
171.51	173.61	*Natural* - Open
173.61	185.71	*Built* - Rural

Table 2

Land Use & Zoning

Eastern Region

***US 395* Route Development Plan**
Spokane to Stevens County Line

Land Use and Zoning

Land use zoning regulation is a tool local jurisdictions use to ensure the compatibility of land use and to control densities. Zoning ordinances are established to prescribe setbacks, minimum lot sizes, and techniques that promote the preservation and protection of environmentally sensitive areas. The land use plan, as a significant component of a comprehensive plan, is an official statement of the county or city policy that establishes the direction it will follow as it evolves. *(See the attached data maps for zoning within the limits of this RDP.)*

Washington State's Growth Management Act (GMA) enacted in March 1990 requires cities and counties to adopt comprehensive plans. The comprehensive plan is an official document providing a series of coordinated statements and plans that a county or city establishes to direct growth. Among many elements, comprehensive plans direct how communities are developed in the future, the means of payment for provided services, and how transportation systems are developed.

In November 2001 Spokane County adopted their most recent comprehensive plan. Currently land use adjacent to US 395 within Spokane County is predominantly zoned *General Agricultural*. Land use within the incorporated limits of the City of Deer Park adjacent to US 395 includes residential, multifamily, commercial, and public/quasi-public. The City of Deer Park has reestablished the limits of the Urban Growth Area and Urban Reserve boundaries to include parcels that may be potentially impacted during future highway widening.[vii]

Developer Participation – Concurrency

Proposed developments, with resultant impacts to US 395 that meet specific impact thresholds, will be required to mitigate those impacts. Mitigation measures may include funding and/or constructing roadway improvements, donating right-of-way, slope easements, and access management measures. The extent of required developer mitigation, which may include one or all of the above mitigation measures, is directly dependent on the proposed traffic impacts.

Development impacting the US 395 corridor will be closely coordinated with the ability of the highway to safely and efficiently accommodate the additional traffic generated by the proposed development.

Early in the land development process, Developers are encouraged to contact both WSDOT and the respective local agency responsible for managing the land use development. An *Eastern Region Developer Review and Service Guide*, outlining the WSDOT developer project review process, is available at Eastern Region planning service center.

Description of Existing Facility

Eastern Region

US 395 Route Development Plan
Spokane to Stevens County Line

Roadway Geometrics

US 395 within the RDP limits is typically a two lane facility, providing 11 foot lanes and 8 foot shoulders. The special purpose lanes (i.e. climbing, turn, and passing lanes) on US 395 are detailed in the following tables:

Climbing Lanes

US 395 Northbound			Southbound		
Mile Post		Length (mile)	Mile Post		Length (mile)
Begin	End		Begin	End	
175.12	176.62	1.50	183.60	183.08	0.52
182.82	183.48	0.66	174.77	172.56	2.21

Table 3
Source(s): SR View, 5/22/1999, 1999 SR View, 1999 Aerial Photos

No-Passing Zones

Within the RDP limits along US 395, approximately 86 percent of the northbound and 81 percent of the southbound two-lane highway is designated no-passing zones at the following locations:

No Passing Zones

Northbound				Southbound			
Mile Post		Length (miles)	Distance Between Zones (miles)	Mile Post		Length (miles)	Distance Between Zones (miles)
Begin Zone	End Zone			Begin Zone	End Zone		
172.25	177.66	5.41	0.44	183.69	182.65	1.04	1.13
178.10	181.42	3.32	0.38	181.52	179.44	2.08	0.76
181.80	182.04	0.24	0.50	178.68	172.30	6.38	
182.54	183.69	1.15					
TOTAL ZONE MILES		**10.12**				**9.50**	

Table 4
Source: 1999 SR View

Left Turn/ Right Turn Channelization

		Northbound		Southbound	
Mile Post	Intersection	Left Turn	Right Turn	Left Turn	Right Turn
173.09	Half Moon Road	lane	taper	lane	taper
173.70	Business Access		lane	lane	
174.10	Wild Rose Road		taper		taper
174.63	North Road		taper		
174.87	S. Dragoon Road				taper
175.04	County Road /N. Dragoon Road		taper		taper
175.31	North Road		taper		
176.32	Staley Road / Dennison-Chattaroy Road	lane	taper	lane	taper
176.63	Dennison Road		taper		taper
176.92	Hamilton Road				
177.19	North Road				
177.52	Owens Road	lane			taper
178.70	Burroughs Road / Dalton Road	lane	taper	lane	taper
179.46	Short Road Wye Connection		taper		
179.53	Short Road				taper
179.89	Cleveland Road / H Road	lane	lane	lane	
180.46	Monroe Road / Crawford Road				
181.06	Dahl Road	lane	taper	lane	taper
182.12	Arlington Road		taper		lane
182.82	Spotted Road	lane	taper	lane	

Table 5
Source: 5/22/1999 SR View 1999 Aerial Photos

Posted Speed, Design Speed and Terrain

The current posted speed limit on this RDP segment of US 395 is 60 mph. The desirable speed for evaluating design elements along the RDP segment of US 395 is 70 mph.

The RDP segment of US 395 is located on rolling terrain.

Existing Right of Way

The existing WSDOT right of way widths typically range from 75 feet to 159 feet. There are locations within the RDP limits where WSDOT has acquired additional right of way to accommodate slope easements, intersections, and other conditions. (*Specific right of way locations are identified on the attached Route Development Plan Data Maps.)*

Horizontal and Vertical Alignments

The segment of US 395 corridor addressed in this RDP is located along rolling terrain. The current posted speed limit is 60 mph. The desirable speed for evaluating design elements on this section is 70 mph.

There are vertical curves in this segment that do not meet design stopping sight distance (SSD) standards for 70 mph desirable design speed, as illustrated below in Table 6. Most of these curves meet the design stopping sight distance for the 60 mph posted speed.

Design Speed (mph)	Design SSD (ft.)	Existing SSD (ft.)	Passing Sight Distance (ft.)	Decision Sight Distance for Maneuvers** (ft.)
50	460	395	1770	510/755
55	550*	450*	1950*	
60	655	525	2065	690/1000
65	725*	550*	2300*	
70	855	625	2460	900/1100

Table 6

Source*: WSDOT Design Manual* and *A Policy on Geometric Design of Highways and Streets, AASHTO, 1990.*
* Rounded for Design ** Rural stop maneuver/ Rural speed/path/direction change maneuvers

Vertical Curves

BVC (mile post)	EVC (mile post)	Length (ft.)	Algebraic Difference in Grades (1) (percent grade)	Design Stopping Sight Distance (ft.)	Design Speed (mph)	Desirable Design Speed (mph)	Posted Speed (mph
172.01	172.07	400	-0.24	2969	>80	70	60
172.41	177.47	400	-0.34	2154	>80	↑	↑
172.60	172.66	400	-0.37	1996	>80		
172.78	173.06	1500	-1.84	1041	70		
173.07	173.25	1000	-2.07	3859	>80		
173.56	173.92	2000	-1.74	1236	>80		
174.14	174.24	600	-1.23	840	65		
174.42	174.44	200	-2.40	377	40		
174.90	175.08	1000	+7.86	540	50		
175.13	175.49	2000	-2.41	1050	>80		
175.63	175.93	1600	-2.00	1031	70		
176.19	176.33	800	+3.39	949	70		
176.38	176.68	1600	-4.81	665	60		
176.96	177.10	800	+2.61	1447	>80		
177.74	177.78	300	+1.88	3708	>80		
177.96	178.06	600	+2.46	1321	>80		
178.29	178.31	200	-1.99	434	45		
178.40	178.50	600	-4.95	401	45		
178.54	178.62	500	+1.79	16188	>80		
178.83	178.89	400	-1.37	685	60		
179.06	179.10	300	+1.07	30000	>80		
179.51	179.55	300	+0.56	30000	>80		
179.82	180.18	2000	-1.47	1345	>80		
180.37	180.51	800	+4.88	671	60		
180.56	180.90	1800	-2.70	941	70		
181.11	181.25	800	-1.10	999	70		
181.45	181.51	400	-1.46	655	60		
181.67	181.69	200	+0.58	30000	>80		
181.82	181.88	400	+1.14	30000	>80		
182.20	182.22	200	+0.38	30000	>80		
182.31	182.33	200	-0.40	1761	>80		
182.67	182.77	600	-0.41	1921	>80	↓	↓
183.20	183.30	600	-0.73	1210	>80	70	60

Table 7

Source: *A Policy on Geometric Design of Highways and Streets, AASHTO*, 1990.
Approved Right of Way Plans, WSDOT, WSDOT TRIPS System

Vertical curve that does not meet standards for 70 mph desirable design speed

(1) Algebraic difference is positive for a sag curve and negative for a crest curve.
(2) * Approximate curve location and length from original right of way plans

The highway alignment within the RDP limits, following the natural rolling terrain, has gradual grade changes ranging from 0.35% to a long grade composed of lighter grades in the vicinity of Monroe/Crawford roads. The recommended maximum grade for a rural arterial in rolling terrain with a 60 mph to 70 mph design speed is 4%. A segment of the alignment south of
Dalton/Burroughs roads exceeds the recommended maximum with a 4.92% grade.
(See Appendix B-3 for grades in the vicinity of the City of Deer Park.)

HORIZONTAL CURVES

PC Station	PT Station	Radius (ft.)	Central Angle (Degrees)	Degree of Curve (Degrees)	Superelevation (e) ft./ft.	Design Speed (mph)
693+40.5	734+21.8	7162.5	32-39	0-48	0.03	70+
spiral curve *1021+40.9* T.S. 1029+40.9 S.C.	1029+04.2 C.S. 1032+04.2 S.T.	2865.0	15-16	2-00	0.02 - 0.07	70+
1050+62.8	1057+56.1	114 60.0	3-28	0-30	0.02	70+

Table 8
Source: A Policy on Geometric Design of Highways and Streets, AASHTO, 1990.
Approved Right of Way Plans, WSDOT

Recent US 395 highway improvements within the RDP limits provided mitigation measures such as passing lanes and left turn channelization to address the combined impacts of high truck volumes - ranging approximately between 4% and 17%, long steep grades, and operational capacity on this corridor. *(See Tables 3 and 5)*

Bridges and Structures

There is one bridge, bridge number 395/460, within this section of US 395. The structure was recently widened in 1997. The following data describes the reinforced concrete T-beam structure:

Location	Name & Number	Width curb to curb *(feet)*	Length *(feet)*	Year Built ***Year Widened**
MP 180.43	Dragoon Creek Bridge, Bridge No. 395/460	42.63	88.32	1951 **1997*

Table 9

Weight Restrictions

The structural capacity of a bridge, a measure of its ability to carry vehicle loads, determines the assigned "load rating". The load rating identifies whether or not a bridge is "posted" for legal weight vehicles or if the bridge is "restricted" for overweight permit vehicles. Currently, Dragoon Creek Bridge has no weight restrictions.

Geometrics

The structure was recently widened in 1997 to accommodate northbound: a 5.2-foot shoulder, an 11 foot thru lane, and a 12 foot left-turn lane; southbound: a 4 foot shoulder, an 11 foot southbound lane, and a 12 foot left-turn lane. The bridge rail is a modified traffic barrier with thrie beam guardrail connected at both ends.

Bridge No. 395/460
US 395 - MP 180.43
Figure 3

Weigh Station

Truck Weigh Station Number 65 is located in the vicinity of MP 182.09, southbound US 395, north of the City of Deer Park. WSDOT is currently constructing additional parking and illumination at this location.

Utilities

In the vicinity of MP 181.06 there is a Bonneville Power Administration substation with accompanying 115-kilovolt (kV) and 230kV transmission lines. There are various aerial and buried utilities located on this segment of the US 395 corridor. The relocation of these utilities during the construction of the endorsed plan may result in temporary impacts. The following are WSDOT recorded utilities:

- U S West Communications, Inc.
- Washington Water Power Co.
- Pacific Northwest Bell Telephone Co.
- Inland Power & Light Co.
- Department of Ecology

Aerial Utilities

The following table provides a list of existing franchised aerial utilities along the corridor limits:

Mile Post	Location	Installation Description	Holder
173.10	right	Luminaire	Wayside Township
173.14	left	13KV crossing	Washington Water Power
173.37	*unknown	13KV crossing	Washington Water Power
173.82	*unknown	13KV crossing	Washington Water Power
174.10	*unknown	13KV crossing	Washington Water Power
174.11	right	Luminaire	Wayside Township
174.84	crossing	7.2KV electric crossing.	Inland Power & Light
175.05	crossing	720 V electric crossing.	Inland Power & Light
175.32	crossing	7.2KV distribution line	Inland Power & Light
176.76	crossing	240V crossing	Washington Water Power
177.09	right	7.2KV crossing	Inland Power & Light

Aerial Utilities continued

Mile Post	Location	Installation Description	Holder
177.59	*unknown	Crossing service	U S West Communications
177.61	crossing	13KV electrical crossing	Washington Water Power
177.90	crossing	7.2V electric transmission line	Inland Empire Rural
178.69	crossing	115KV transmission line	Washington Water Power
178.69	*unknown	Luminaire	Deer Park Township
178.72	*unknown	Luminaire	Deer Park Township
179.50	right	Luminaire	Deer Park Township
179.55	left	Luminaire	Deer Park Township
180.45	left	Luminaire	Deer Park Township
180.47	right	Luminaire	Deer Park Township
180.47	crossing	13KV distribution line	Washington Water Power
181.05	left	Luminaire	Deer Park Township
181.07	right	Luminaire	Deer Park Township
181.13	crossing	13KV electrical crossing	Washington Water Power
181.34	crossing	13KV electrical crossing	Washington Water Power

Table 10 *Location unknown, for further details contact WSDOT. Eastern Region Utilities.
Source: WSDOT Eastern Region Utilities (12/9/99)

Buried Utilities

The following table provides a list of existing franchised buried utilities within the RDP limits:

Mile Post	Location	Description IP - iron pipe BIP - black iron pipe GIP - galvanized iron pipe	Holder
172.0	*unknown	crossing, 200 pair/2.5 BIP	U S West Communications
172.0	*unknown	crossing, 2-100 pair/4" BIP	U S West Communications
173.0	Right	2-100 pair	U S West Communications
173.3	*unknown	crossing, 13KV	Washington Water Power
173.5	Right	4 pair telephone.	Pacific Northwest Bell
174.1	Crossing	6" steel natural Gas line in a 10" steel casing	Washington Water Power
174.1	Crossing	4" BIP with a 200 pair cable	U S West Communications
174.1	*unknown	crossing, 3" BIP	U S West Communications
174.9	Left	50 pair	U S West Communications
175.0	Crossing	200 pair telephone cable encased in a 4" x 70'	Pacific Northwest Bell

Buried Utilities continued

Mile Post	Location	Description IP - iron pipe BIP - black iron pipe GIP - galvanized iron pipe	Holder
175.3	*unknown	Crossing, 11 pair/2.5" BIP	U S West Communications
176.3	Left	50 pair 25 pair	U S West Communications
176.2	*unknown	Crossing, 50 pair / 25 pair/2" BIP	U S West Communications
176.9	Crossing	50 pair telephone cable in a 2" I.P.	Pacific Northwest Bell
176.9	left	50 pair telephone cable in a 2" I.P.	Pacific Northwest Bell
176.9	*unknown	crossing, 11 pair/2.5" BIP	U S West Communications
178.0	*unknown	crossing, 100 pair 25 pair/2" GIP	U S West Communications
178.7	crossing	100' x 4" I.P. casing w/100 pair telephone &12	Pacific Northwest Bell
179.3	crossing	2-6" steel pipe conduits for power lines.	Inland Power & Light Co.
179.5	left	2" polyethylene, enters right of way	Washington Water Power
179.5	*unknown	crossing, 100 pair 200 pair/3" GIP	U S West Communications
179.5	*unknown	crossing, 1200 pair / 75 pair 6" BIP	U S West Communications
179.5	*unknown	crossing, 2" polyethylene in 8" steel casing	Washington Water Power
179.5	right	2" polyethylene, leaves right of way	Washington Water Power
179.9	crossing	4" polyethylene gas main and one 8" steel casing	Washington Water Power
179.8	*unknown	crossing, 50 pair/3" BIP	U S West Communications
180.4	crossing	12" storm water outfall pipe under the bridge	Deer Park Township
180.4	crossing	6" steel gas line in a 10" casing 150' long	Washington Water Power
180.4	right	150 pair	U S West Communications
180.4	left	3" gas line in a 6" casing	Washington Water Power
180.4	*unknown	crossing, 900 pair 300 pair/6"4" BIP	U S West Communications
180.6	left	2 ½" water line in a 6" diameter casing pipe	Woodland Cemetery
181.2	*unknown	crossing, 50 pair/2" GIP	U S West Communications
181.3	*unknown	crossing, 100 pair/5" GIP	U S West Communications
181.8	right	1 ½" diameter aquifer observation well	Department of Ecology
181.8	right	1 ½" galvanized pipe extending above ground	Department of Ecology
181.8	*unknown	crossing, 150 pair/3" BIP	U S West Communications
181.8	*unknown	no description	U S West Communications
182.8	left	150 pair, 3" IP	U S West Communications
182.8	crossing	300 pair telephone crossing	Pacific Northwest Bell
182.8	*unknown	crossing, 11 pair/2" BIP	U S West Communications

Table 11 *Location unknown, for further details contact WSDOT. Eastern Region Utilities.

Source: WSDOT Eastern Region Utilities (12/9/99)

Several of the above utilities will be relocated when constructing the improvements proposed in this RDP.

Freights & Goods Transportation System

Eastern Region

***US 395* Route Development Plan**
Spokane to Stevens County Line

Freights and Goods Transportation System

A primary purpose of the Washington State highway system is to provide efficient movement of freight and goods - an efficient and effective delivery service providing access from production areas to local, national, and international markets. The Freight and Goods Transportation System (FGTS) initiative, created in response to an increasing interest in freight mobility, examines the use, benefits, and resultant effects of freight mobility on the state's highway transportation system. On March 16, 1995, the Transportation Commission adopted a Freight and Goods Transportation System as per the Revised Code of Washington (RCW) 47.052.021 section 4 which provides:

> The transportation commission shall designate a freight and goods transportation system. This statewide system shall include state highways, county roads, and city streets. The commission, in cooperation with cities and counties, shall review and make recommendations to the legislature regarding policies governing weight restrictions and road closures which affect transportation of freight and goods."

The impact of truck movement on roadways is directly correlated to the weight of the vehicle, the roadway characteristics and other physical and environmental factors. Roadway impacts associated with weight, while primarily correlated to cargo payload, also vary in relation to the total vehicle weight, axle weight, tire pressure, tire type, and other variables. The FGTS provides a mechanism to identify sections of highways, county roads, and city streets that require improvements to support established freight movements based on the following tonnage classifications:

FGTS Classification	Annual Gross Tonnage	Approximate Number of Large Trucks per Day
T-1	Over 10,000,000	over 800
T-2	5,000,000 to 10,000,000	400 to 800
T-3	300,000 to 5,000,000	24 to 400
T-4	100,000 to 300,000	8 to 24
T-5	*Over 20,000 in 60 days	

Table 12 ***The T-5 classification is used in those agricultural areas where harvest occurs over a relatively short period and represents an equivalent to 100,000 tons per year, but compressed into a two month harvest season.*

The FGTS tonnage class for the segment of US 395 addressed in this plan is T-2 (5 million to 10 million annual tons). The entire south segment of US 395 south of Spokane is classified T-1 (over 10 million annual tons). US 395, serving as a major freight and goods route, provides a major north-south link. This highway is a primary route for transporting raw materials and consumer products between northeastern Washington communities, and destinations beyond Washington. The segment of US 395 addressed in this plan facilitates international and interstate commercial trade activity, a primary arterial through the City of Deer Park, and a major commuter route connecting the Spokane community to rapidly developing northern residential areas. Increased commercial activity prompted by NAFTA transportation policies has resulted in increasing utilization of Washington State highways.

In 1993 and 1994 the Eastern Washington Intermodal Transportation Study (EWITS) analysis of highway freight mobility along US 395 north of Spokane found southbound freight trucks routinely carried heavier cargo weights than the payloads transported on other major Washington freight corridors. The cargo weights originating from Canada, as identified by this study, were heavier than the median cargo weights on the overall state system.

A North Spokane Truck Study conducted by WSDOT Eastern Region Planning between the years 1993 and 1994 identified commodities transported on US 395 north of Spokane. The following provides data obtained from 1121 truck drivers:

Primary Commodities	Number of Trucks	Percentage of Trucks
Automobiles	15	1.34%
Building Materials	40	3.57%
Chemicals	37	3.30%
Equipment	26	2.32%
Fertilizer	59	5.26%
Food/Drink	33	2.94%
Paper Products	18	1.61%
Service Trucks	34	3.03%
Wood Products	307	27.39%
Other	156	13.92%

Table 13 Source: WSDOT North Spokane Truck Study, July 1995

Alternative Transportation Modes

Eastern Region

***US 395* Route Development Plan**
Spokane to Stevens County Line

Pedestrian and Bicycle Facilities

Currently, US 395 is not a designated bicycle route. The existing 8 to 10 foot shoulders can support bicycle interfaces. The proposed project design will include provisions for alternative transportation modes including shoulder widths that can support bicycle traffic.

Bus Routes

Spokane Transit Authority (STA), the primary bus service in Spokane County, currently does not provide service along US 395 within the limits of this RDP. STA terminates northern bus service in the vicinity of MP 166 at Hastings Road. Northwestern Trailway, a private bus service, operates along the US 395 corridor providing service between Spokane and Trail, British Columbia three times a week. Passenger rail service does not currently operate north of central Spokane.

Travel Demand Management

Transportation Demand Management (TDM), is a collection of strategies aimed at reducing the number of single occupancy vehicles on the highway. These strategies include transit, walking, or carpooling. The City of Deer Park, often referred to as a ”bedroom community” to Spokane, is the home of many commuters who work in Spokane. As a result of recently enacted state commute trip reduction legislation, many Deer Park residents participate in employer sponsored commute trip reduction programs that promote alternative modes of transportation.

Along with measures such as carpooling, there are approximately two STA vanpool services in this vicinity that provide alternative modes of transportation. A de facto park-and-ride lot has been established in the parking lot of a local grocery store.

Environmental Issues

Eastern Region

US 395 Route Development Plan
Spokane to Stevens County Line

Environmental Issues

The data included in this section of the RDP was benchmarked from the US 395 Spokane to Canada Environmental Assessment (EA) that was approved August 1999.

Determination of Non-Significance

The Federal Highway Administration (FHWA) has determined that proposed actions and alternatives addressing improvements along US 395 between MP 172.60 and MP 270.26 that are within the scope of the US 395 Environmental Assessment, dated June 1998, will have no significant impact on the environment. This Findings of No Significant Impact is based on the evaluated social, economic, and environmental effects of alternative highway improvements on US 395. The recommendations in this RDP are within the scope of the US 395 Environmental Assessment, dated June 1998.

Air Quality

The Washington State Department of Ecology (WSDOE) and the Spokane County Air Pollution Control Authority (SCAPCA) jointly enforce state and federal air pollution law. While air quality management is the sole responsibility of WSDOE, within metropolitan areas SCAPA has lead responsibility. An air quality monitoring station near the northern limits of the Spokane Metropolitan Area is the nearest station to the RDP limits.

There were no documented major point sources of air emissions along the US 395 Environmental Assessment corridor within the RDP limits. Existing sources of non-point emissions are from automobiles that primarily emit carbon monoxide.

Noise

Highway traffic noise levels are directly influenced by three major factors:

- Traffic volume
- Traffic speed
- Truck percentage

As increases in the above conditions occur, there is typically an increase in traffic noise levels. The varying nature of these conditions result in ever-changing highway noise levels. Existing and impending noise levels are often addressed with a three-part strategy: motor vehicle control, land use control, and highway planning and design. The RDP process addresses the following strategies:

- *Land use* - Access management coupled with prudent development of land adjacent to highways providing reasonable distance between buildings and the roadway, are useful tools that can assist in preventing many future noise problems.

- *Highway planning and design* - Early analysis of existing and potential noise levels attributed to a highway enables identification and evaluation for alternative design and abatement measures.

Federal and State guidelines have established 65-67 decibels the acceptable range for noise levels in residential, park, picnic, and recreational areas. WSDOT has established the following noise level thresholds as goals for reducing traffic noise abatement:

Noise Abatement Design Goals

Decibel Impact (dBA)	Target Reduction (dBA)
66 – 69	10
70 - 75	15
Above 75	20

Table 14
Source: US 395 Environmental Assessment, Approved August 1999

WSDOT Eastern Region Environmental Office assessed noise levels on US 395. An analysis of recorded noise levels reflecting existing and projected ADT for the existing geometrics and the alternative proposing additional through lanes in the vicinity of Deer Park provides the following:

Noise Levels -Field Observations and Projections

	Average Field Observations	Existing ADT	Projected ADT
	Recorded Decibels	*Projected Decibels*	*Projected Decibels*
South of Deer Park Addition of (2) Lanes	71.3	84.9	87.1
North of Deer Park Addition of (2) Lanes	72.1	83.1	85.3

Table 15 *Source: US 395 Environmental Assessment, Approved August 1999*

As a policy, WSDOT defers final decisions regarding noise barrier applications until after final horizontal and vertical alignments are determined and detailed feasibility and reasonableness analysis is performed during the design phase. Various noise abatement measures are evaluated during the design analysis of existing and projected noise levels. Feasibility and construction reasonableness are considered when considering noise barriers as an abatement measure.

Drainage

There are two locations, within the limits of the RDP, delineated as potential flood plain areas by the Federal Emergency Management Agency (FEMA) Flood Plains technical report, volume 1, Section 5. Both of the areas are in the vicinity of Dragoon Creek between MP 175 and MP 180.5. A potential flood plain area has also been identified just outside of the plan limits at MP 183.7 Beaver Creek crossing. Approximately 0.33 acres of wetlands outside of the Dragoon Creek vicinity have been identified throughout the RDP limits, for specific locations see the attached RDP data maps.

The US 395 Environmental Assessment provides the following description for the Dragoon Creek vicinity:

> The wetlands associated with Dragoon Creek at MP 175 and at MP 180.4 are the largest wetland system encountered in this section of the highway. The first crossing (MP 175) impacts a wetland that is larger than ten acres in size on both sides of the roadway, and the second crossing (MP 180.4) impacts one that is greater than five acres.

Implementation of the RDP recommendations may result in impacts to the flood plain areas and wetlands adjacent to the existing highway. While the region is committed to include wetland mitigation measures in the design of the proposed plan, the mere width of the proposed alignment makes absolute avoidance very difficult. As a result of proposed widening to accommodate additional lanes and proposed interchanges, the plan anticipates flood plain and wetland impacts particularly in the vicinity of Monroe/ Crawford roads. Prior to the design of new or modified structures, a backwater analysis will be completed to ensure that construction will not decrease the channel carrying capacity or increase the FEMA 100-year flood plain elevation as prescribed by the county flood plain ordinance.

WSDOT maintenance identified drainage and flooding issues associated with the high water table in the vicinity of MP 179.6. A significant amount of runoff from development adjacent to US 395 in this vicinity flows into the highway ditches that were not intended or designed to accommodate conveyance from private development. The existing drainage system will be modified to accommodate the additional runoff from the new alignment. Currently the City of Deer Park, WSDOT, and developers within the potential flood plain are collaboratively identifying and planning future drainage mitigation measures. To minimize future flood plain impacts this plan recommends continued coordination between the agencies and potential developers, and the implementation of the drainage mitigation measures identified in the US 395 Environmental Assessment. There are several cross drainage structures along US 395 within the limits of the RDP. These facilities are maintained by WSDOT maintenance.

4(f) Sites

In accordance with Section 4(f) of the US Department of Transportation Act, FHWA prohibits acquiring land from a significant publicly owned park, recreation area, wildlife or waterfowl refuge, or any significant historic site, unless it is determined that (1) there is no feasible or prudent alternative to the use of such land, and (2) the proposed action includes all possible planning to minimize harm to the property. The recommended plan does not

anticipate impacting any of the following 4(f) properties located within the RDP limits:

- (2) Deer Park city parks
- Recreational Activity Courts
- Playing Fields
- Golf Course
- Swimming Pool
- Woodland Cemetery

All of the above sites, with the exception of Woodland Cemetery, are located at least 1500 feet east of US 395,. The plan recommends shifting the alignment east in the vicinity of Woodland Cemetery which is located in close proximity to US 395 on the west.

Historical Sites

The following historical sites within the RDP limits have been identified in the US 395 Spokane to Canada Environmental Assessment:

Observed Historic Properties within 200 feet of US 395

Mile Post	Address	Description	Type	Potential Placement on National Register
173.1	North corner of US 395 / Halfmoon Road	Farm house and barn	Agricultural	Low
174	West of US 395 south of Wild Rose Road	Brick bungalow and frame barn	Agricultural	High
174.1	Northwest corner US 395 / Wildrose Road	Green frame wood shingle one-story house with a large frame barn	Agricultural	Low
174.1	Northeast corner of US 395 / Wild Rose Road	White frame glaze shingle one-story house with a small frame barn and outbuildings	Agricultural	Low
176.3	Southwest of the Denison Chattaroy / Staley Roads junction with US 395	Small one-story frame house with barn and garages	Agricultural	Low
178.7	Southwest corner Burroughs / Dalton Roads junction with US 395	One-story, white frame house with glaze siding and frame barn	Agricultural	Low
181.3	In pine forest west of US 395	Small one-story frame house	Agricultural	Low

Table 16

low - very little potential for National Register of Historic Places (NRHP)
high - likely candidates for NRHP eligibility potential

The proposed alignment may impact parcels identified in the above table. The extent of the impacts will be determined during the design of the recommended improvements.

Operating Conditions

Eastern Region

US 395 Route Development Plan
Spokane to Stevens County Line

Traffic

Existing annual average daily traffic (AADT), PM peak hour traffic (*evening commute),* and turning movement (TM) volume data was collected along the mainline and at major county and city intersections on US 395 for analysis in this RDP. The following tables summarize the findings:

SR 395

Average Daily Traffic

Mile Post	Year						K%	DHV
	1996	1997	1998	1999/ 2000	2007	2020		
MP 171.57 to MP 178.70 (Fender Rd. to Burroughs/Dalton Rd.)	*	*	*	13800 **	16891 **	21528 **	9.0	1938
MP 178.70 to MP 179.39 (Burroughs/Dalton Rd. to Short Rd.)	10316	11000	10000	11310	13249	16341	8.4	1373
MP 179.39 to MP 179.90 (Short Rd. to City Limit)	7641	7900	7600	8573	9881	12181	8.1	987
MP 179.90 to MP 180.46 (City Limit to Monroe/Crawford Rd.)	*	*	*	*	18899	25082	8.1	2032
MP 180.46 to MP 182.82 (Monroe Rd. to Spotted Rd.)	9200	*	*	*	13526	18503	8.0	1480
MP 182.82 to MP 183.69 (Spotted Rd. to Spokane/ Stevens Co.)	7700	7900	7700	8827	10395	13657	7.9	1079
MP 183.69 to MP 190.29 (Permanent Traffic Counter)	7600	8400	8111	9310	9929	12461	8.4	1047

Table 17
Source: 1998 Annual Traffic Report and WSDOT TRIPS System

** traffic counts not available*
*** Bases on 2.8% growth rate from year 1991 (11040 ADT)*
K% - ratio of design hour traffic to AADT
DHV – Design hour volume, (vehicles per hour)

Growth Rate

Traffic volumes were projected to the years 2007 and 2020 for short and long term analysis. The 2.8% growth rate was derived from historic counts acquired from WSDOT Traffic Data Office. *(See Table 19)*

Design Hour Volume

The existing and projected traffic volumes within the RDP limits vary, resulting in varying design hour volumes. Design hour volume, measured in vehicles per hour, is integral in determining the highway design classification which specifies the roadway geometrics, access control, design speed and pavement type.

Level of Service

A level of service (LOS) analysis evaluates the traffic volumes and operational characteristics of a designated segment of a highway. The product of the analysis is a description of the highway's traffic carrying capacity as defined by six levels of service. The levels of service range from LOS A representing the best operating conditions to LOS F representing the worst. The 1999-2018 Highway Systems Plan has established LOS C as the current LOS objective on rural highways. On urban highways, the objective is to mitigate congestion when the LOS falls below D.

Level of Service	Operating Conditions
A	• Free-flow operations at average travel speeds • Vehicles completely unimpeded within the traffic stream • Stopped delays at intersections are minimal
B	• Reasonably unimpeded operations at average travel speeds • Maneuverability within traffic stream is slightly restricted
C *(minimum LOS for Rural highways in Washington)*	• Stable operations • Ability to maneuver becomes more restrictive • About 50% of average free-flow speed is achieved
D *(minimum LOS for Urban highways in Washington)*	• Small increases in flow may cause substantial increases in delays and speed • Average travel speeds are about 40% of free-flow speeds

Level of Service	Operating Conditions
E	• Significant delays and average travel speeds of one-third of the free-flow speed • Adverse progression, high signal density, high volumes typical
F	• Average travel speeds as low as 25% of free-flow speeds • Intersection congestion likely at critical signalized intersections • High delays and queuing expected

Table 18

Level of service analysis for this RDP was accomplished using the Special Report Highway Capacity Manual (HCM) methodology for two-lane highways. All of the intersections within the RDP limits are unsignalized. WSDOT Eastern Region Planning and Traffic offices are currently drafting a Signal and Channelization Priority Array that will identify and rank intersections recommended for signalization. It is anticipated that signal installation will not be recommended at any intersection within the limits of this RDP.

To provide detailed intersection operational analysis at significant intersections within the RDP limits turning movements counts were collected While the LOS at unsignalized intersections is measured in terms of average vehicle delay, the overall intersection LOS is based on the LOS of the worst approach movement. Although the review of individual movements is instrumental in identifying channelization and other geometric improvements that will mitigate long delays at particular movements, the overall intersection delay is often used to measure the intersection operation.

Projected traffic counts used to analyze the LOS for the overall intersection and the worst turning movement were based on an average growth rate of 2.8% and planned improvements. The LOS for each intersection was calculated using existing PM peak hour volumes. Table 19 presents the results of the analysis.

Intersection Level of Service
(No Build)

Intersection	2000		2007		2020		Worst Movement		
	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	Direction	LOS
Burroughs -Dalton	20	C	31	D	222	F	222	WB	F
Short	24	C	48	E	536	F	536	WB	F
H-Cleveland	16	C	20	C	80	F	80	EB	F
Monroe-Crawford	13	B	22	C	61	F	61	EB	F
Dahl	13	B	16	C	38	E	38	EB	E

Table 19
Source: WSDOT Eastern Region Planning

Proposed Land Use Development Operational Impacts

In the City of Deer Park, southeast of the Deer Park Milan Road and Country Club Drive intersection, Phase I of Arcadia Park Plaza proposes to construct a 164,000 s.f. shopping center and a 60-room hotel on a 20-acre site within the next three to five years. The increased trips generated by the development are anticipated to impact the traffic operations of the immediate and regional transportation system. The following table summarizes as presented in the *Traffic Impact Analysis for Phase I Arcadia Park Plaza July 23,1998,* the development 's projected impacts at intersections previously addressed in this RDP:

Intersection	2002 Base Conditions		2002 Project Conditions	
	LOS	Delay (sec.)	LOS	Delay (sec.)
Monroe - Crawford				
EB Approach	C(B)	11.6 (7.6)	C(B)	13.0 (7.7)
WB Approach	C(B)	12.3 (5.7)	C(B)	13.2 (5.4)
NB Left	A(A)	3.2 (3.3)	A(A)	3.8 (2.6)
Short - Main				
EB Approach	B(B)	9.7 (7.0)	B(B)	9.6 (6.7)
WB Approach	F(D)	52.5 (23.4)	F(D)	72.9 (22.5)
NB Left	B(A)	5.3 (3.1)	B(A)	4.9 (3.1)

Intersection	2002 Base Conditions		2002 Projec Conditions	
	LOS	Delay (sec.)	LOS	Delay (sec.)
Dalton				
EB Approach	C(C)	17.3 (12.0)	D(C)	20.3 (12.5)
WB Approach	D(D)	28.2 (27.0)	F(D)	162.6 (28.3)
NB Left	A(A)	3.5 (4.2)	A(A)	3.6 (4.2)
SB Left	A(A)	4.7 (2.7)	A(A)	4.8 (2.7)

Table 20

(xx) – AM Peak Hour
xx - PM Peak Hour

Source: Traffic Impact Analysis for Phase I Arcadia Park Plaza (July 23, 1998) by The Transpo Group prepared for Taylor Engineering

Travel Delay Methodology

On the horizon, currently used as a tool in the development of the Washington Transportation Plan (WTP) is the Travel Delay Methodology (TDM) approach which also evaluates and quantifies highway system performance. Recognizing the traveling public's interest in commute travel time and experience, this methodology measures and analyzes among many characteristics, travel speed, delay, commute times, and hours of congestion. The awareness and analysis of commute durations –delay, along with the extent of congestion, enables WSDOT to measure the effectiveness of proposed projects in meeting the congestion relief policy. *(The Congestion Relief policy seeks to relieve congestion on state highways by identifying and evaluating all available transportation modes and strategies.)*

The provisions of a full access managed highway along this segment of US 395 is anticipated to significantly reduce the projected delays and improve LOS. Local travel times to and from four destination locations in the vicinity of the Deer Park were evaluated for various alternatives. Local travel time evaluations for each alternative considered the travel time along the corridor and waiting time at intersections, while illustrating in general terms the potential savings and/or delay reductions for vehicular traffic. While the recommended alternative limits direct access points to US 395, the provisions of grade separated interchanges combined with local access roads is anticipated to reduce conflicting movements and thus reduce accidents and time to access US 395. *(See Appendix D)*

WSDOT Eastern Region Planning and Traffic teams are currently drafting a Signal and Channelization Priority Array that will identify and rank recommended intersection channelization improvements on state highways. The methodology used to derive this report involves accident avoidance analysis.

The section of US 395 addressed in this RDP was divided into four logical segments for mainline traffic analysis. All of the segments currently operate at a LOS D or worse. The projected traffic volumes indicate in the year 2020 the proposed four lane facility will operate at a LOS A. Based on an anticipated 2.8% growth rate, the four lane facility is projected to reach capacity in 54 years. The following tables illustrate the results of the analysis.

US 395
Segment Hourly Volumes
(No Build)

	2000 Volumes			2007 Volumes			2020 Volumes		
Segment	**NB**	**SB**	**Total *LOS***	**NB**	**SB**	**Total *LOS***	**NB**	**SB**	**Total *LOS***
Fender Rd. to N. Dragoon Rd. *MP 171.5 to 175.0*	787	428	1215 *E*	955	519	1474 *E*	1368	743	2111 *F*
N. Dragoon Rd. to Short- Main Rd. *MP 175.0 to MP 179.46*	537	439	976 *E*	652	533	1184 *E*	933	763	1696 *F*
Short- Main Rd. to Dahl Rd. *MP 179.46 to MP 181.06*	465	309	774 *E*	564	375	939 *E*	808	537	1344 *E*
Dahl Rd. to Spokane/Stevens County Line *MP 181.06 to MP 183.69*	406	348	754 *D*	493	422	915 *E*	706	604	1310 *E*

Table 21 Source: WSDOT Eastern Region Planning

US 395
Segment Hourly Volumes
(Four Lane Build)

Segment	2007			2020		
	Density *pcphpl		LOS	Density *pcphpl		LOS
	NB	SB		NB	SB	
Fender Rd. to N. Dragoon Rd. *MP 171.5 to 175.0*	10.4	5.7	A	14.9	8.1	A
N. Dragoon Rd. to Short- Main Rd. *MP 175.0 to MP 179.46*	7.1	7.2	A	10.2	8.3	A
Short- Main Rd. to Dahl Rd. *MP 179.46 to MP 181.06*	6.2	4.1	A	8.8	5.9	A
Dahl Rd. to Spokane/Stevens County Line *MP 181.06 to MP 183.69*	5.4	4.6	A	7.7	6.6	A

Table 22 **pcphpl - passenger car per hour per lane*
Source: WSDOT Eastern Region Planning

SR 395
PM Peak Hour Volume (VPH)
(No Build)

MP Description	2000	2007	2020	Directional Distribution, D%		Truck Percentage
				NB	SB	
Fender Rd. to N. Dragoon Rd. *MP 171.5 to 175.0*	1215	1474	2111	65	35	3.7 NB 5.0 SB
N. Dragoon Rd. to Short- Main Rd. *MP 175.0 to MP 179.46*	976	1184	1696	55	45	3.7 NB 5.0 SB
Short- Main Rd. to Dahl Rd. *MP 179.46 to MP 181.06*	774	939	1344	60	40	4.5 NB 5.1 SB
Dahl Rd. to Spokane/Stevens County Line *MP 181.06 to MP 183.69*	754	915	1310	54	46	4.5 NB 5.1 SB

Table 23
Source: WSDOT Eastern Region PAlanning

Accidents

WSDOT uses two major programs, the Hazardous Accident Location (HAL) and the High Accident Corridor (HAC) programs, to identify and mitigate safety issues at particular locations on state highways. *(See Glossary for definitions of HAL and HAC)*

A high accident corridor has been identified within the limits of this RDP from MP 179.50 to MP 181.00. Accident data from January 1,1993 to December 31, 1997 *(1993 to 1996 = full accidents records 1997 = 64% partial accident records)* for this segment reveals the following:

US 395
Accident Severity and Collision Costs

Corridor Collision Cost	$9,680,600
Severity Points	192
Total Accidents	60
Property Damage Only Accidents	17
Possible Injury Accidents	16
Evident Injury Accidents	17
Disabling Injury Accidents	8
Fatal Accidents	2
Unknown Severity Accidents	0
Societal Cost*/Mile/Year	$1,290,747

**(Societal Cost per year are used when performing benefit/cost analyses for proposed improvements. This cost is based on cost factors which are applied to each type of accident in the HAL.)*

Table 25
Source: WSDOT Eastern Region Program Management - Scoping

ACCIDENT LOCATION

SR 395
January 1, 1996 thru December 31, 1999
MP 172.00 to MP 183.69

Location	Number of Accidents	1996 Accident Rate*	Multi-Year Accident Rate (1992-1996)
MP 172.00 to MP 173.09 *(MP 172 to Halfmoon Rd.)*	10	1.0	0.8
MP 173.09 to MP 174.10 *(Halfmoon Rd. to Wild Rose Rd.)*	10		
MP 174.10 to MP 175.04 *(Wild Rose Rd. to N. Dragoon Dr.)*	14		
MP 175.04 to MP 176.92 *(N. Dragoon Dr. to Hamilton Rd.)*	20		
MP 176.92 to MP 177.52 (*Hamilton Rd. to Owens Rd.)*	13		
MP 177.52 to MP 178.70 *(Owens Rd. to Burroughs/Dalton Rd.)*	15		
MP 178.70 to MP 179.46 (*Burroughs/Dalton Rd. to Short Rd.)*	4		
MP 179.46 to MP 180.46 (*Short Rd. to Monroe/Crawford)*	27	1.9	2.7
MP 180.46 to MP 182.82 (*Monroe/Crawford to Spotted Rd.)*	22	1.7	1.0
MP 182.82 to MP 183.69 *(Spotted Rd. to Stevens County Rd.)*	10		

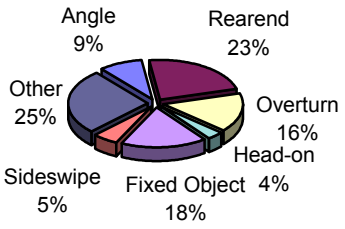
Table 26
Source: Accident Data Run Date: 6/16/2000 (Includes partial accident records)
Accident Rate = (Number of Accidents) x (1million) / (Section Length) x (AADT) x (365 Days)* *** If the section is less than I mile, it is excluded from the formula.*
Accident records from 197 to present reflect incidents subsequent to recent safety improvements including intersection channelization revisions.

In 1996, the accident rate for Spokane County was 2.16 accidents per million vehicle miles of travel compared to the statewide and eastern region average accident rates of 1.88 and 1.82, respectively. During this same period the average accident rate along principal arterials in rural areas was 1.48.[viii] In 1996 a segment of US 395 between Short Road and Spotted Road, within the City of Deer Park experienced accident rates higher than the average rural principal arterial rate.

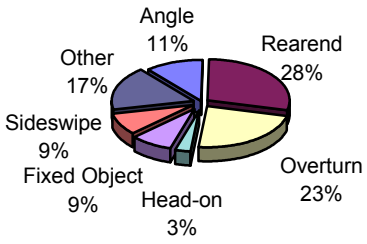
ACCIDENT TYPE

SR 395
MP 172.00 to MP 183.69
January 1, 1996 thru December 31, 1999

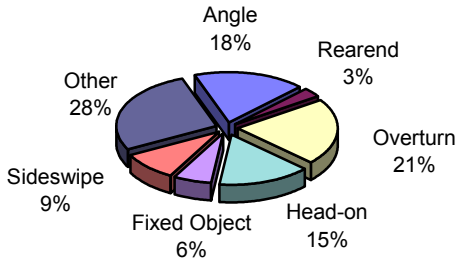
1996 AccidentType
57 Total Accidents



1997 Accident Type
35 Total Accidents
(Partial Records)



1998 Accident Type
33 Total Accidents
(Partial Records)



1999 Accident Type
24 Total Accidents
(Partial Records)

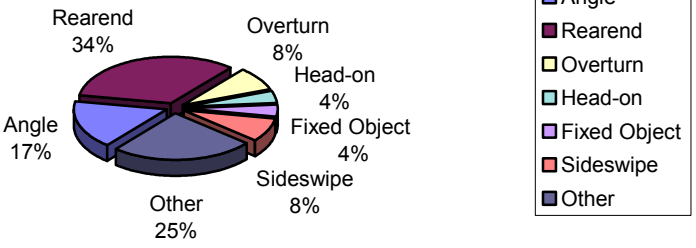


Figure 4

Source: MicroCARS Accident Data Run Date: 6/16/2000

The above data contains both full and partial accident records.

ACCIDENT TYPE

SR 395
MP 172.00 to MP 183.69

January 1, 1996 thru December 31, 1999

TYPE	NUMBER of ACCIDENTS	PERCENTAGE
Entering at Angle	14	9%
Rearend	32	21%
Overturn	26	18%
Sideswipe	17	12%
Opposite Direction - Head-on	8	5%
Fixed Object	16	11%
Other	36	24%
TOTAL	**149**	100%

Table 27

Source: MicroCARS Accident Data Run Date: 6/16/2000
(Above data contains both full and partial accident records.)

ACCIDENT SEVERITY

SR 395
January 1, 1996 thru December 31, 1999
MP 172.00 to MP 183.69

Type	Number of Accidents	Percentage
Property Damage Only	55	39%
Injury	91	58%
Fatal	3	2%
TOTAL	**149**	100%

Table 28

Source: MicroCARS Accident Data Run Date: 6/16/2000
(Above data contains both full and partial accident records.

US 395
Accident Severity
1996- 1999

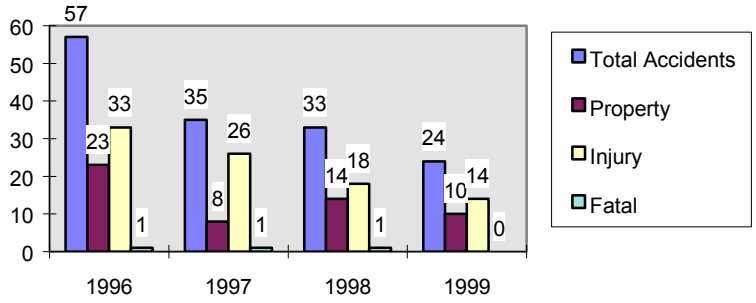


Table 29

Source: MicroCARS Accident Data Run Date: 6/16/2000
(Above data contains both full and partial accident records.)

US 395
Monthly Accident Rate
1996-1999

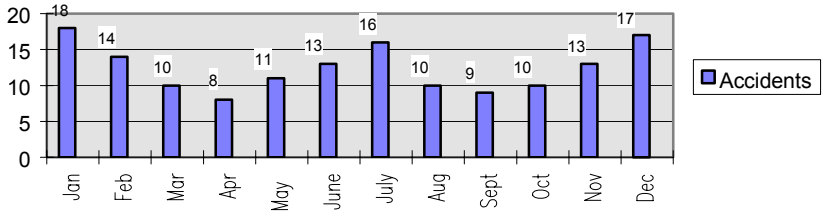


Table 30

Source: MicroCARS Accident Data Run Date: 6/16/2000
(Above data contains both full and partial accident records.)

Accidents in Relation to Time of Day

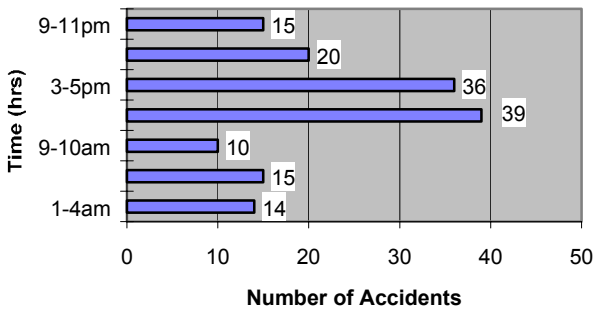


Table 31

Source: MicroCARS Accident Data Run Date: 6/16/2000
(Above data contains both full and partial accident records.)

Traffic Volumes and Interstection Related Accidents

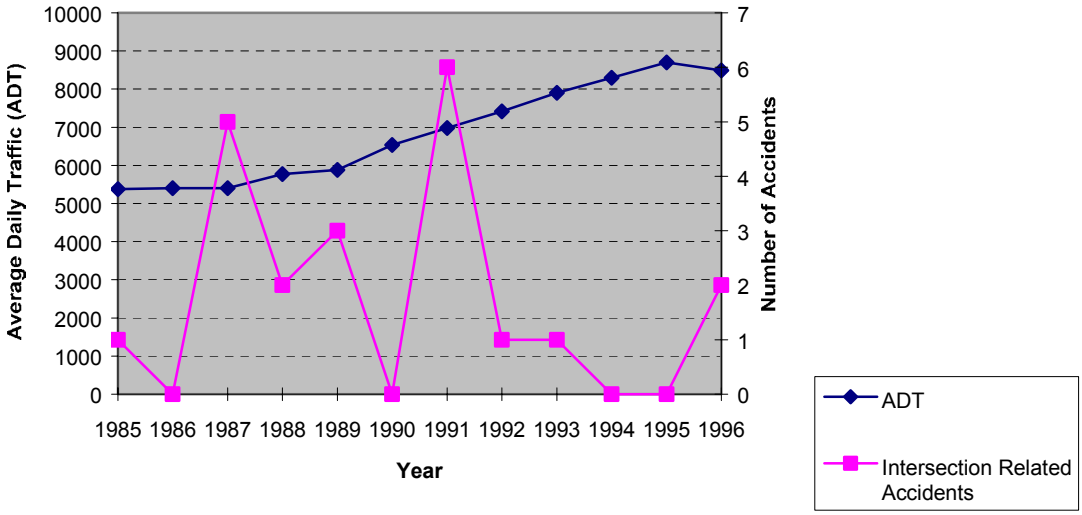


Table 32

Source: MicroCARS Accident Data Run Date: 6/16/2000
(Above data contains both full and partial accident records.)

Proposed

Design Criteria

Eastern Region

US 395 Route Development Plan

Spokane to Stevens County Line

Full Design Level

In accordance with WSDOT Design Matrices for improvement projects on NHS routes, this RDP recommends implementing full design level criteria on the segment of US 395 addressed in this RDP. Full design level, the highest level of design, provides optimum mobility, safety, and efficiency of traffic movement. The overall objective is to move the greatest number of vehicles, at the highest allowable speed, and functional classification.

The highway's functional classification, terrain classification, urban or rural surroundings, traffic volumes, traffic character and composition, design speed, and access control are all major controls considered in determining the design criteria.

Design Class

The functional classification of the segment of US 395 addressed in this RDP is rural principal arterial. The design classification is principal arterial. The principal arterial system is a connected network of rural arterial routes with appropriate extensions into and through urban areas, including all routes designated as part of the interstate system, which serve corridor movements having travel characteristics indicative of substantial state-wide and interstate travel (RCW 47.05.021)

Measured in vehicles per hour, the design hour volume (DHV) , along with access control measures, is integral in differentiating between the various design classes of a principal arterial. Historically design improvements on this segment of US 395 have been in accordance with Design Class P-2, which supports partial access control on a principal arterial with a DHV over 700. As presented in Table 17, the segment between MP 171.57 and MP 178.70 (Fender Rd. to Burroughs/Dalton Rd.), the southern portion of the RDP limits, closest to the City of Spokane, is projected in the year 2020 to meet the required DHV criteria for a P-1 design class. The 2020 projected DHVs in the remaining segment meet the design controls for the P-2 design class with the exception of the segment from MP 179.90 to MP 180.46 (Short Rd. to Monroe/Crawford Rd.) where the volumes represent local travel at the major entering and exiting locations for the City of Deer Park.

In response to a call by the Federal Highway Administration to identify potential interstate facilities, WSDOT Eastern Region is exploring the Federal designation of US 395 as an interstate facility. In accordance with WSDOT Design Manual this RDP recommends, the following design class designation within the RDP limits based on the projected volumes and anticipated growth:

Mile Post	Projected DHV (2020)	Proposed Design Class
MP 171.57 to MP 178.70 (Fender Rd. to Burroughs/Dalton Rd.)	1938	Principal – 1 *(Potential Interstate)*
MP 178.70 to MP 179.39 (Burroughs/Dalton Rd. to Short Rd.)	1373	Principal – 1 *(Potential Interstate)*
MP 179.39 to MP 179.90 (Short Rd. to City Limit)	987	Principal – 1 *(Potential Interstate)*
MP 179.90 to MP 180.46 (City Limit to Monroe/Crawford Rd.)	2032	Principal – 1 *(Potential Interstate)*
MP 180.46 to MP 182.82 (Monroe Rd. to Spotted Rd.)	1480	Principal – 1 *(Potential Interstate)*
MP 182.82 to MP 183.69 (Spotted Rd. to Spokane/Stevens Co. Line)	1079	Principal - 2
MP 183.69 to MP 190.29 (Spokane/Stevens Co. Line to Permanent Traffic Counter)	1047	Principal - 2

Table 33 *Source: WSDOT Eastern Region Planning*
WSDOT Design Manual (May 2001)

While P-2 design class criteria is proposed for the segment north of Spotted Road to Spokane/ Stevens County line, land use changes and growth may prompt the eventual implementation of a higher design class. To mitigate the financial impacts of escalating right of way costs the RDP recommends acquiring and implementing full access control measures as soon as funding is available.

The following table highlights the design controls for the above design classes as summarized from Chapter 4 *Full Design Level* WSDOT Design Manual:

Design Class	**Divided Multilane** **I - 1**	**Principal** **P - 1**	**Principal** **P - 2**
DHV in Design Years NHS	---------	Over 1,500	Over 750
Access Control	Full	Full	Partial
Separate Cross Traffic Highways Railroads	 All All	 All All	 Where Justified All
Design Speed (mph) Rural - Minimum Urban - Minimum	 80 (desirable) 60 mountainous terrain) and 70 (rolling terrain) *with justification* 70	 70 50	 70 50
Traffic Lanes Number Width (ft)	 4 or more divided 12	 4 or more divided 12	 4 or 6 divided 12
Median Width (ft) Rural - Minimum Urban - Minimum	*4 lanes* *> 6 lanes* 40 50 16 22	*4 lanes* *> 6 lanes* 40 48 16 22	*4 lanes* *> 6 lanes* 60 16 60 22
Shoulder Width (ft) Right of Traffic Left of Traffic	 10 10 4 10	 10 4 (six or more lanes) 10 (six lanes)	 10 4 (six or more lanes) 10 (six lanes)
Right of Way (ft) Rural - Minimum Urban - Minimum	 63 Not less than roadway section	→	→

Table 34 *Source: WSDOT Design Manual (May 2001)*

Alternatives

Eastern Region

US 395 Route Development Plan

Spokane to Stevens County Line

Alternatives

During the RDP process seven conceptual alternatives proposing improvements on US 395 in the Deer Park vicinity were developed and evaluated in general terms. In collaboration with the City of Deer Park and a Citizens Advisory Team, WSDOT and the Consultant Engineer further developed and refined three design alternatives. The design alternatives were evaluated in relation to general environmental, right of way, and infrastructure impacts. Mobility, safety, public sentiment, and economic issues were also considered. The cost of the three alternatives were comparably close. The following provides a synopsis of the three alternatives:

Alternative 1

- Four lane divided US 395 roadway section with a 60 foot wide rural median
- Shifts the alignment westerly in the vicinity of Short Road to maintain the existing roadway to serve as a parallel local access road
- Shifts the alignment easterly in the vicinity of Woodland Cemetery and to avoid impacts to the cemetery
- Elevates the US 395 alignment 15 feet to 25 feet in the vicinity of Deer Park between Burroughs/Dalton Roads and Monroe/Crawford Roads to provide for a local roadway crossing at Short/Main Street and Cleveland/H Street.
- Provides a system of parallel one way local access roads between Burroughs/Dalton Roads and Monroe/Crawford Roads
- Full access control along US 395 with limited access provisions to US 395 from designated locations along the local access roads. Provides access to a adjacent development from local access roads between designated locations.
- Grade separated crossings at:

  Burroughs/Dalton Roads (under crossing US 395) with partial interchange
  Short /Main Streets (over crossing US 395), and

Monroe/Crawford Road (over crossing US 395) with partial interchange

Attributes

- Least right of way impacts of the three examined alternatives
- Minimal impacts to Dragoon Creek in the vicinity of Monroe Road
- Highest public acceptance
- Provides flatter vertical grade alignment north from Dragoon Creek vicinity to Dahl Road
- Avoids direct impacts to Woodland Cemetery and BPA Substation

Potential Concerns

- Residential and commercial development impacts

Alternative 2

- Four lane divided US 395 roadway section with a 60 foot wide rural median
- Shifts the alignment westerly in the vicinity of Short Road and easterly in the vicinity of Woodland Cemetery
- System of parallel one way local access roads between Burroughs/Dalton Roads and Short Road/Main Street and two way local access roads between Short Road/Main Street and Monroe/Crawford Roads
- Provides full grade separated interchanges at Burroughs/Dalton Roads and Monroe/Crawford Roads
- Over crossing at Short Road / Main Street
- At grade US 395 alignment in the vicinity of Deer Park

Attributes

- Avoids direct impacts to Woodland Cemetery and BPA Substation

Potential Concerns

- Most right of way impacts of the three examined alternatives
- Residential and commercial development impacts
- Wetland impacts in the vicinity of Dragoon Creek requiring permitting and mitigation measures

Alternative 3

- Four lane divided US 395 roadway section with a 60 foot wide rural median
- Shifts the alignment westerly in the vicinity of Short Road and easterly in the vicinity of Woodland Cemetery
- System of parallel local access roads; two way east of US 395 between Burroughs/Dalton Roads and Short Road/Main Street, two way west of US 395 between Short Road/Main Street and Monroe/Crawford Roads
- Provides full grade separated interchanges at Burroughs/Dalton Roads and Monroe/Crawford Roads
- No crossing at Short/Main Streets, Cleveland/H Streets, or Dahl Road
- At grade US 395 alignment in the vicinity of Deer Park

Attributes

- Lower right of way impacts
- Avoids direct impacts to Woodland Cemetery and BPA Substation

Potential Concerns

- Residential and commercial development impacts
- Wetland impacts in the vicinity of Dragoon Creek requiring permitting and mitigation measures
- Access to residential and commercial development

Refining the Recommended Alternate

Alternate 1 emerged as the recommended alternate following preliminary evaluation of each alternate which included feedback received during meetings with the Deer Park Citizens Advisory Team and an Open House that was primarily attended by property owners adjacent to US 395. During these discussions WSDOT was asked to consider:

- The addition of a grade-separated crossing at Cleveland Road/ H Street.
- Increasing access to and from proposed parallel local access roads.

As part of refining Alternate 1, comments and concerns presented by the various stakeholders were integrated into Alternate 1.

To minimize the proposed US 395 roadway elevation in this vicinity and also accommodate the required over-crossing clearance, Alternate1 originally proposed lowering Short/ Main road. Lowering the fill height of US 395 would also reduced construction costs. Following discussions with various citizens and stakeholders familiar with drainage issues in this vicinity, the uncertainty of feasibly lowering Short/ Main road was heightened. The WSDOT Geotechnical team was consulted to perform a cursor investigation, to identify, and evaluate geological and drainage conditions within the RDP limits. See the appendix for the Geotechnical team's recommendations.

Evaluation -

Recommendations

Eastern Region

US 395 Route Development Plan
Spokane to Stevens County Line

Improvement Strategies

The improvement strategies for the segment of the US 395 corridor addressed in this RDP were evaluated on their ability to meet the purpose of the National Highway System, safety, environmental considerations, future traffic demands, public acceptance, and feasibility.

The improvement options are grouped in accordance with four highway programs as identified in the *1999- 2018 Highway System Plan* including - Preservation (structures), Mobility, Safety, and Economic Initiatives. The need for these and other potential improvements is subject to on-going monitoring and review in the future as WSDOT incorporates updated data. As these recommendations evolve into future improvement projects, more information will be necessary to complete the project design phase.

Mobility Improvements

Mobility improvement projects support strategies that provide Level of Service (LOS) C operations on rural highways, and whenever cost effective, reduce the number of existing or potential access points onto state highways by purchasing access rights or encouraging the consolidation of access through the land development review process. Projects that provide intersection improvements, highway realignment, highway widening, bridge replacement, access improvements, climbing lanes, and passing lanes are examples of mobility projects.

Recent Mobility Improvements

Within the project limits, passing lanes were recently constructed as part of a series of federally funded safety demonstration improvement projects. (See Table 37)

Mobility Improvements Identified in the 1999 Highway System Plan

The following proposed mobility improvements on this segment of US 395 were identified in the **1999 - 2018 Highway Systems Plan** (See Table 35):

VICINITY (Mile Post)	IMPROVEMENT	STRATEGY	Estimated Cost Range	
172.00 - 176.92	Mobility	Purchase Access Rights	1.04 M	1.30 M
173.09 - 176.92	Mobility	Add lanes MP 172 to Hamilton Road	13 M	15 M
176.92 - 184.00	Mobility	Add lanes Hamilton to Montgomery Road	16.5 M	19 M
184.00 - 190.00	Mobility	Add lanes Montgomery Rd to Loon Lake	22.5 M	26 M

Table 35
Source: 1999 - 2018 Highway System Plan

Recommended Mobility Improvement Strategies

To improve the operation of US 395 and enhance freight mobility in Washington State, this RDP recommends managing access, providing additional lanes, and constructing grade separated interchanges at selected locations along this segment.

Access Management

In conformance with RCW 47.50, US 395 is an accessed controlled facility. The goal of this law is to establish levels of access management that will preserve the safety and operational characteristics of the highway.

Limited access rights have not been acquired between MP 172 and Hamilton Road (MP 171.94 and MP 176.92). This segment of the RDP has assigned access management classification 2. During the late 1950's and early 1960's WSDOT purchased limited access rights for partial access control management measures between Hamilton Road to Stevens County Line (MP 176.92 to MP 183.69).[ix] While the land use adjacent to US 395 segment in this RDP has not yet reached full development build out, continuing commercial and residential development is anticipated.

US 395 ACCESS MANAGEMENT & CLASSIFICATION TABLE

Mile Post		Right/		EXISTING Access	PROPOSED Access		
Begin	End	Left	Description	Control	Control	Land Use	Terrain
171.94	176.92	Both	MP 172 to Hamilton Rd	Class 2	Full	Agriculture	Rolling
176.92	179.90	Both	Hamilton Rd to Deer Park	Partial	Full	Agriculture	Rolling
179.90	179.97	Both	City of Deer Park	Partial	Full	Commercial	Level
179.97	183.69	Both	Deer Park to Stevens Co. Line	Partial	Full	Agriculture	Rolling

Table 36

Full Access Control

The RDP recommends early acquisition of full access control the entire length of the segment in accordance with the implementation tools provide in Washington Administrative Code (WAC) 468 and the WSDOT Access Control Design Policy. While full access will be purchased as early as possible, implementation may occur in stages as highway projects are developed along this corridor.

Full access control is typically acquired on principal arterial highways which require four or more thru lanes within a 20 year design period such as the RDP segment of US 395.

Fully managing access along this segment of US 395 will:

- Reduce interface between (local) passenger vehicles and freight traffic, promote increased local, regional, and international mobility, and

- Protect the highway from the impacts of anticipated development, preserve its ability as a National Highway of Significance to facilitate significant international and regional freight mobility.

Full access control will permit access connections to US 395 via interchanges located at selected city/county roads and the weigh station in the vicinity of MP 182. At grade

crossings and private connections are not permissible under full access control measures.

Additional Lanes

To provide increased highway capacity and obtain an acceptable LOS on mainline US 395 within the RDP limits, this plan proposes the construction of a four lane facility. This plan recommends the following improvements throughout the project limits, except in the vicinity of the Deer Park:

- The construction of a new two lane southbound alignment, parallel to the existing alignment.
- Maintaining the existing alignment to serve as the new northbound alignment.

In the City of Deer Park vicinity where an elevated alignment is proposed, the existing alignment will be maintained to serve as a local access road paralleling the proposed elevated alignment.

Elevated Alignment

This plan recommends constructing an elevated embankment alignment in the vicinity of Deer Park city limits. The proposal of an elevated alignment within the vicinity of Deer Park has been collaboratively discussed among various stakeholders including adjacent property owners, the City of Deer Park, and WSDOT. The recommendation is based on the premise that an elevated alignment in this vicinity will support over-crossings at selected locations that facilitate travel east and west of US 395 with less impacts to existing local roadways, particularly in dense developed areas. The elevated segment will facilitate east-west travel via existing at grade crossings. Maintaining the existing local roadway crossings at the existing elevations will avoid potential drainage issues resulting from existing high water table

levels in the vicinity of Short/ Main Streets. Further design analysis of the elevated alignment will be required during the design phase.

Safety Improvements

Safety improvement projects support strategies that improve highway geometrics at locations that have a high accident history. Safety improvements may involve intersection improvements such as left turn channelization and deceleration/ acceleration lanes when traffic volume warrants are met.

Recent Safety Improvements

Concerned with the high accident rate on US 395, WSDOT, private citizens, and legislators collaboratively secured Federal Demonstration Project funding for the 1995-1997 Construction Program to construct left turn channelization and passing lanes. These funds were used to construct the following safety improvements within the RDP limits:

Mile Post	Vicinity / *Project*	Safety Improvement
MP 173.1	Half Moon Road *(Hamilton Road to Stevens Co. Line)*	Left turn channelization Extend southbound passing lane
MP 178.5	Burroughs/Dalton Roads *(Hamilton Road to Stevens Co. Line)*	Left turn channelization
MP 179.9	Cleveland Road/ H Street *(North Spokane Corridor - Safety Improvements)*	Left turn channelization
MP 180.5	Monroe/Crawford Roads *(Hamilton Road to Stevens Co. Line)*	Left turn channelization
MP 182.7 to MP 183.7	Spotted Road *(North Spokane Corridor Safety Improvements)*	Southbound passing lane Left turn channelization

Table 37
Source: 1999 - 2018 Highway System Plan

Safety Improvements Identified in the 1999 Highway System Plan

The following safety improvement strategy identified in the 1999 - 2018 Highway Systems Plan on this segment of US 395 is currently being implemented:

VICINITY	IMPROVEMENT	STRATEGY	Estimated Cost Range	
179.00 - 181.00	Safety - HAC	*Project in Progress* Install left turn channelization US 395 Intersections *(See Table 31)*	0.80 M	1.1 M

Table 38

Recommended Safety Improvement Strategies

While the 1999 - 2018 Highway System Plan identifies improvement options that significantly address HAL, HAC, and Risk categories, discussions with corridor stakeholders, further analysis, and identification of additional transportation safety mitigation methods has yielded supplementary options. Some of the identified low cost, high benefit improvement options such as signage and pavement marking improvements potentially could be implemented sooner.

Proposed Safety Mitigation Measures

Continuous Centerline Rumble Strips

Over the past few years, centerline rumble strip applications have been evaluated for safety and effectiveness in mitigating centerline crossover accidents, typically head on collisions. Recent data indicates a significant decrease in crossover accidents following the installation of continuous centerline rumble strips. The cost to install this interim accident mitigation measure is minimal. Between the years 1996 and 1999 incomplete accident data indicate 21 accidents crossing centerline occurred, equating to 14% of the total accidents within the RDP segment of US 395.

In the past year a couple of crossover accidents resulting in fatalities have occurred on this segment that are not included in the above counts. The RDP recommends the installation of centerline rumble strips as an interim mitigation measure effort for crossover accidents.

Grade Separation

The primary purpose of grade separation is to eliminate conflicts caused by vehicle crossings and to minimize conflicting left-turn movements. Interchanges are typically located where traffic at grade cannot be controlled safely and efficiently. Locating traffic interchanges along a highway that extends through a community requires careful analysis and consideration of economic and operational effects, particularly with respect to local access, land use, and highway capacity impacts.

This plan seeks to provide improvement strategies that optimize capacity and local access along US 395. After evaluating current and projected traffic volumes and patterns the following grade separation is recommended:

Grade Separated Interchange

- Half Moon Road — MP 173.50*(vicinity)*
- Staley / Dennison-Chattaroy Roads — MP 176.32
- Burroughs / Dalton Roads — MP 178.70
- Monroe / Crawford Roads — MP 180.46
- Spotted Road — MP 182.82

Over - crossing

- Short/ Main Streets — MP 179.46
- Cleveland/ H Streets — MP 179.89

The proposed grade separated locations were selected after evaluating the following:

- Regional connectivity/access
- Local connectivity/access
- Existing / projected traffic volumes

- Spacing and geometrics

The grade separated locations proposed in the vicinity of Deer Park vicinity represent the coordinated evaluation and analysis efforts of WSDOT and the Deer Park Citizens Advisory Team.

In an effort to minimize excessive interruptions to main line traffic, each proposed interchange was evaluated in conjunction with adjacent proposed interchanges. In urban areas the minimum spacing between adjacent interchanges is 1 mile and in rural areas it is 2 miles.

The City of Deer Park abuts approximately 1 mile of US 395 between MP 179.39 (south of the Short Road wye connection) and MP 180.46 (Monroe/ Crawford Roads). Following examination of existing and projected turning movements, connectivity with principal state and county arterials, land use issues, and projected growth patterns, this plan recommends the provisions of grade separated interchanges with loca road access north and south of the city limits at Monroe/ Crawford roads and Burroughs/Dalton roads. An interchange is also recommended at the intersection of Staley/ Dennison - Chattaroy roads. The placement of grade separated interchanges at the proposed locations will accommodate growth around the City of Deer Park.

At-Grade Intersections

Existing at grade intersections will be maintained throughout the limits of the RDP until grade separated crossings along with coordinating local access roads are designed and developed. Traffic conditions at existing at grade intersections will be periodically evaluated to prioritize the development of potential grade separated crossings/interchanges.

Local Access Roads

Implementing full access control design measures on this segment of US 395 will require the construction of interchanges at designated locations and spur the development of local access roads to provide access to proposed interchanges. The development of local access roads is recommended to retain continuity of the city and county road systems, to provide access to private development, and to allow access to US 395 at designated locations. This RDP recommends connecting existing county and city roads not necessarily adjacent to US 395, at specified locations, to serve as highway local access roads. at specified locations. The use of existing roadway infrastructure will minimize right of impacts and overall costs.

This plan recommends the provision of a local access road system composed of a combination of existing local roadways and new parallel roadways on both sides of US 395 throughout the project limits. American Association of State Highway and Transportation Officials (AASHTO) assert that while one way local access roads may create minor inconvenience to local traffic, they are preferred from an operational and safety standpoint. In the vicinity of Deer Park, one- way local access roads are recommended primarily because two-way local access roads present increased potential for wrong way entry particularly at ramp terminal junctions. Within the city limits developers with parcels adjacent to US 395 will be asked to contribute right of way as necessary, to accommodate the proposed local access roads and right of way easements.

Median

In accordance with WSDOT Full Design Level Standards, this plan recommends the construction of a median throughout the limits of this segment. The provision of a median in this segment of US 395 will:

- Separate opposing traffic
- Provide for recovery of out-of-control vehicles

- Reduce head-on accidents
- Provide area for left turn lanes
- Minimize headlight glare
- Allow for future widening

The proposed median design meets *Full Design Level Standards* for the applicable design classes identified along this segment of US 395. The required minimum median widths for interstate facilities and rural principal arterials - design classes 1 and 2 range from 40 feet to 60 feet. In consideration of future capacity needs and route continuity this RDP recommends maintaining a 60 foot wide rural median the full limits of the RDP segment.

The ability to cross medians at locations other than at an interchange or at grade intersection crossings will be prohibited throughout the segment. At specific locations median crossovers will be constructed for use by maintenance, traffic service, emergency, and law enforcement vehicles only.

System Enhancements

Transit Facilities

Due to the unavailability of transit services in the limits of this RDP, specific improvements for transit such bus pullouts are not recommended.

Proposed Right of Way

Implementing the recommended improvements including additional lanes, a 60 foot wide median, and local access roads will result in the acquisition of additional right of way. While most of the land within the plan limits is zoned general agricultural, the plan anticipates impacting some adjacent structures in residential, commercial, and agricultural areas. In consideration of the existing topography, additional right of way may be required to facilitate desirable design standards, wetland mitigation sites, stormwater detention, and other amenities. To accommodate additional lanes and local access roads, the plan recommends establishing a right of way width along US 395 that provides approximately 95 feet and 20 feet of additional right of way, west and east of US 395 respectively. *(See Appendices B-1 and B-3 for recommended roadway sections.)*

Potential Impacts

The following table summarizes by mile post, existing features impacted by proposed improvements:

Mile Post *Vicinity*	**Description** **Existing land use within the proposed right of way**	**Route Data Map** *Sheet Number*
MP 172.00	Large Utility Pole Zone - General Agricultural	*1,2*
MP 173.00	House, shed, other structures - approx. MP 173.12 with US 395 access via Half Moon Rd (MP 173.09) House - approx. MP 173.98 direct access to US 395 County Road Access – Half Moon Rd (MP 173.09) Zone - General Agricultural Private Access Permit – MP 173.60 - (approx. 3 structures)	*2,3,4*
MP 174.00	House - approx. MP 174.12 with US 395 access via Wild Rose Rd (MP 174.10) House - approx. MP 174.60 direct access to US 395 House - approx. MP 174.75 direct access to US 395 House - approx. MP 174.82 direct access to US 395 County Rd Access - Wild Rose Rd MP 174.10, S. Dragoon Rd MP 174.87 Wetland - vicinity Dragoon Creek (south of MP 175.00, greater than 10 acres) Zone - General Agricultural	*4,5*
MP 175.00	Vicinity to house - approx. MP 175.02 with US 395 access via N. Dragoon Rd (MP 175.04) House with structures - approx. MP 175.31 direct access to US 395 County Rd Access - N. Dragoon Rd (MP 175.04) Wetland - associated with Dragoon Creek, (MP 175.00, greater than 10 acres) Zones - General Agricultural and Suburban Residential Commercial Access Permit - MP 175.56 Commercial Access Permit - MP 175.65 Commercial Access Permit - MP 175.90	*5,6,7*
MP 176.00	House - approx. MP 176.30 with US 395 access via Staley Rd (MP 176.32) Vicinity to house - approx. MP 176.66 access Dennison Rd (MP 176.63) Gravel/Sand Storage Site MP 176.50 County Rd Access - Staley Rd (MP 176.32), Dennison Rd (MP 176.63), Hamilton Rd (MP 176.92) Wetland - south of Staley Road, (0.1 acre) Zone - General Agricultural	*7,8,9*

Mile Post *Vicinity*	**Description** **Existing land use within the proposed right of way**	**Route Data Map** *Sheet Number*
MP 177.00	House - approx. MP 177.18 direct access to US 395 County Rd Access – Owens Rd (MP 177.52) Zones - General Agricultural, Urban Residential, Regional Business, Community Business, Light Industrial	*9,10,11*
MP 178.00	House - approx. MP 178.70 with US 395 access via Burroughs Rd (MP 178.70) County Rd Access - Burroughs Rd (MP 178.70) Wetland - Vicinity MP 178.70 - 178.90 north of Burroughs Rd (1 acre) Zone - General Agricultural County Rd Access - Monroe Rd (MP 180.46) Wetland - MP 180.40 Dragoon Creek runoff, (greater than 5 acres) Zones - General Agricultural, Suburban Residential	*11,12,13*
MP 181.00	Residential Area - between MP 181.06 - 181.40 (4-5 homes) with US 395 access via Burroughs/ Dahl Rd (MP 181.06) Vicinity of house - approx. MP 181.78 access US 395 Auto wrecking yard - approx. MP 181.80 access US 395 Power Plant - approx. MP 181.02 County Rd Access - Dahl Rd (MP 181.06) Zone - General Agricultural	*16,17,18*
MP 182.00	Close to structures (Buildings for private air strip) - approx. MP 182.90 access US 395 Weigh Station - MP 182.12 County Rd Access - Spotted Rd (MP 182.82) Zone - General Agricultural *Rail Road parallels US 395 Northbound north beyond study area (MP 182.00)*	*18,19*
MP 183.00	Red/White Circular structure - approx. MP 183.12 Inactive air landing strip (portion impacted - approx. MP 183.00 - 183.36) Residential Access (permitted) - approx. MP 183.45 Zone - General Agricultural *MP 183.69 County Line - End of study area* Wetland - MP 183.70 associated with farm pond (north of County Line, 0.1 acre) House - approx. MP 183.74 direct access to US 395	*19,20*

Bypass Alternative

A bypass alternative proposing the routing of trucks west of US 395 around the City of Deer Park was evaluated during the US 395 Corridor Study. Based on discussions with Deer Park businesses, residents, and local officials during the US 395 Environmental Assessment development phase, WSDOT deferred consideration of a bypass alternative. There is a perception that the bypass alternative, potentially could economically impact the Deer Park community. While the bypass alternative proposes an opportunity to enhance both freight and general mobility, by separating the trucks from cars, the existing LOS capacity deficiencies and mobility issues can be mitigated by providing additional lanes. WSDOT recognizes while a major bypass route may not prove to be a viable option at this time, continual growth coupled with resultant highway capacity and access management impacts may eventually require the implementation of a bypass near the Deer Park vicinity.

Constructability

Along with typical construction issues associated with new roadway and bridge construction including excavation and fill activities, the design of recommendations in this RDP will involve wetland mitigation and drainage efforts. The implementation of environmental best management practices is recommended to minimize impacts to environmentally sensitive areas.

Traffic operations will be affected during construction. Construction traffic control plans in accordance with the Manual on Uniform Traffic Control Devices will be developed during the design phase. Construction sequencing will most likely result in conveying north and southbound traffic along the existing alignment during construction of the new alignment. Throughout the construction phase, intermittent traffic disruptions along with temporary access restrictions to adjacent property are anticipated. WSDOT will work with property owners to minimize impacts.

Project Phasing

Eastern Region

US 395 Route Development Plan
Spokane to Stevens County Line

Project Segments

The following recommended project development phasing assumes the segment south of the RDP limits approximately between MP 169.25 (Hatch Road) and MP 172.00 will be improved to provide:

- A four lane divided highway segment
- A grade separated interchange in the vicinity of MP171.04 (Monroe Road) , and
- Full access control management

Segment A

Cost $16 million
(Includes preliminary engineering, construction & right of way)

MP 172.00 to MP 176.92 beginning in the vicinity of Fender Road, approximately one mile north of the proposed Monroe Road grade separated interchange, and extending north to Hamilton Road.

Existing Conditions

This section of US 395, an undivided two lane facility along open rolling terrain (MP 171.51 to MP 173.61) and rural-built environment (MP 173.61 to MP 185.71), is currently operating at a LOS E. Traffic forecast project this segment will operate at a LOS F within the next 20 years.

ADT	**Truck Percentage ***	
(1999)	(1996)	(1999)
NB 6080	NB 15.6%	NB 3.7%
SB 5840	SB 9.5%	SB 5.0%

* The variance in truck percentages between 1996 and 1999 can be attributed to difference in seasonal freight transport and the possible use of alternative routes during significant alignment construction activities on US 395 in the vicinity of Hatch Road (MP 169.14).

Accident Rate *(MP 171.04 - MP 179.53)*

1996 accident rate	1.0
Multi-year accident rate	0.8
(1992-1996)	

Recommendations

- ***Purchase full access rights*** throughout the limits of this segment.

- Provide a ***four lane divided facility*** with a 60 foot wide rural median by maintaining the existing alignment to facilitate northbound travel and constructing two additional lanes for southbound traffic.

- Construct one ***grade separated interchange*** in the vicinity of MP 173.50 to serve both ***Half Moon Road*** and Wild Rose Road county arterials.

- Construct a ***grade separated crossing at Staley/Dennison-Chattaroy Road*** in the vicinity of MP 176.32

Segment B

Cost $12 million
(Includes preliminary engineering, construction & right of way)

MP 176.92 to MP 179.00 beginning in the vicinity of Hamilton Road, approximately a half mile north of the proposed Staley/Dennison-Chattaroy Road grade separated interchange, and extending approximately a third mile north of Burroughs/Dalton Road.

Existing Conditions

This segment of US 395, an undivided two lane facility along rural-built rolling terrain is currently operating at a LOS E. Traffic forecast project this segment will operate at a LOS F within the next 20 years.

ADT		Truck Percentage *			
(1999)		(1996)		(1999)	
NB	6080	NB	16.0%	NB	3.7%
SB	5840	SB	11.5%	SB	5.0%

* The variance in truck percentages between 1996 and 1999 can be attributed to difference in seasonal freight transport and the possible use of alternative routes during significant alignment construction activities on US 395 in the vicinity of Hatch Road (MP 169.14).

Accident Rate *(MP 171.04 - MP 179.53)*

1996 accident rate	1.0
Multi-year accident rate (1992-1996)	0.8

Recommendations

- ***Purchase full access rights*** throughout the limits of this segment to preserve this segments ability to safely and efficiently facilitate projected increases in freight mobility and commute traffic. During the late 1950's and early 1960's WSDOT purchased limited access rights for partial access control management measures between Hamilton Road to Stevens County Line (MP 176.92 to MP 183.69).

- Provide a ***four lane divided facility*** with a 60 foot wide rural median by maintaining the existing alignment to facilitate northbound travel and constructing two additional lanes for southbound traffic. The RDP recommends constructing an elevated alignment in the vicinity of Burroughs / Dalton Road and in some sections preserving the existing alignment to serve a local access road.

- Construct a ***grade separated crossing at Burroughs/ Dalton Road*** in the vicinity of MP 178.70 to serves as a principal southerly access to the City of Deer Park.

Segment C

Cost $30 million
(Includes preliminary engineering, construction & right of way)

MP 179.00 to MP 181.50 beginning approximately a third mile north of Burroughs/Dalton Road and extending approximately a half mile north of Dahl Road.

Existing Conditions

This segment of US 395, an undivided two lane facility on rural-built rolling terrain is currently operating at a LOS E. Traffic forecast project this segment will operate at a LOS E within the next 20 years.

ADT	Truck Percentage *	
(1999)	(1996)	(1999)
NB 4630	NB 16.0%	NB 4.4%
SB 4760	SB 11.5%	SB 5.3%

* The variance in truck percentages between 1996 and 1999 can be attributed to difference in seasonal freight transport and the possible use of alternative routes during significant alignment construction activities on US 395 in the vicinity of Hatch Road (MP 169.14).

Accident Rate *(MP 179.53 – MP 181.06)*

1996 accident rate	1.9
Multi-year accident rate (1992-1996)	2.7

High Accident Corridor - MP 179.50 and MP 181.00.

Recommendations

- ***Purchase full access rights*** throughout the limits of this segment.
- Provide a ***four lane divided facility*** with a 60 foot wide rural median by maintaining the existing alignment to facilitate northbound travel and constructing two additional lanes for

southbound traffic. The RDP recommends constructing an elevated alignment up to the vicinity of Monroe Crawford Road (MP 180.46) and in some sections preserving the existing alignment to serve a local access road.

- Construct a ***grade separated crossings at Short Road and H Street*** in the vicinity of MP 179.46 and MP 179.89 respectively to serves as a principal economic and residential centers in the City of Deer Park.

- Construct a ***grade separated interchange at Monroe Crawford Road*** in the vicinity of MP 180.46 to serve as a principal northerly access to the City of Deer Park.

Segment D

Cost $17 million
(Includes preliminary engineering, construction & right of way)

MP 181.50 to MP 183.69; beginning approximately ½ mile north of Dahl Road and extending to Spokane/Stevens County Line.

Existing Conditions

This segment of US 395, an undivided two lane facility on rural-built rolling terrain is currently operating at a LOS D. Traffic forecast project this segment will operate at a LOS E within the next 20 years.

ADT	Truck Percentage *	
(1999)	(1996)	(1999)
NB 4630	NB 17.7%	NB 4.4%
SB 4760	SB 11.7%	SB 5.3%

- The variance in truck percentages between 1996 and 1999 can be attributed to difference in seasonal freight transport and the possible use of alternative routes during significant alignment construction activities on US 395 in the vicinity of Hatch Road (MP 169.14).

Accident Rate *(MP 179.53 – MP 181.06)*

1996 accident rate	1.9
Multi-year accident rate (1992-1996)	2.7

Recommendations

- ***Purchase full access rights*** throughout the limits of this segment.
- Provide a ***four lane divided facility*** with a 60 foot wide rural median by maintaining the existing alignment to facilitate northbound travel and constructing two additional lanes for southbound traffic.
- Provide an ***grade separated interchange Spotted Road*** in the vicinity of MP 182.82 to serve residential land use.

Project Phasing

This RDP recommends implementing the above proposed safety and mobility strategies in the following phases:

Phase 1 – Segment B from MP 176.92 TO MP 179.00	**$12 MILLION**
Phase 2 – Segment C from MP 179.00 to MP 181.50	**$ 30**
Phase 3 – Segment D from MP 181.50 to MP 183.69	**$ 17**
Phase 4 - Segment A from MP 172.00 to MP 176.92	**$ 16**
TOTAL	**$ 75 MILLION**

Project Funding

Eastern Region

US 395 Route Development Plan
Spokane to Stevens County Line

The project implementation process begins with the route development plan, a long range planning document addressing the future 20 to 25 years of the highway's life. The route development plan consists of several phases, including data collection, public meetings, interagency liaison, traffic analysis, the RDP proposal, along with a review and comment period. Project implementation is the culmination of the RDP effort and involves many inputs from varied sources. The implementation plan, an important phase, assists WSDOT in ensuring comprehensive project programming efforts and continuity between the planning and the project programming phases.

The RDP does not initially consider the availability of funding; rather it examines potential improvements for the route segment during the initial six years following the endorsement of the route development plan. In the final stages, the implementation plan is refined to include primarily those improvements that emerge as the most cost constrained and cost effective improvements. (*Financially constrained projects are high priority projects with a benefit/cost ratio greater than 1.0.)* It is also during these stages that the scoping cost estimates are developed and funding sources for the plan are identified. The implementation plan for this segment of US 395 will represent three biennial periods between the years 2001 and 2007. WSDOT anticipates the implementation of all improvements addressed in this RDP within the next 6 to 10 years.

Funding Sources

Current funding of WSDOT highway projects based on existing revenues is limited to maintenance, preservation, and traffic operations projects. While "adding lanes" between MP 173.09 and MP 184.00 *(MP 172 to Montgomery Rd.)* on US 395 is identified in the 1999-2018 Eastern Region Financially Constrained 20 year Mobility Strategies list, the current programmed budget does not include funding for improvements on this segment of US 395.

Committed to operate an efficient, safe, and coordinated corridor, WSDOT Eastern Region continues to pursue funding for proposed improvements. Periodically, during future WSDOT Highway System Plan updates proposed improvement projects on US 395 will be

re-assessed during funding prioritization in preservation, safety, mobility, and economic initiative programs.

Benefit- Cost Analysis

As outlined in RCW47.05 *Priority Programming for Highway Development*, the legislature has found "solutions to state highway deficiencies have become increasingly complex and diverse" , and anticipated transportation revenues fall substantially short of the amount required to satisfy all transportation needs. At times, difficult investment trade-offs are required. To ensure we address the "worst first" and achieve the "best bang for the buck" along our state highways, in a rational manner, WSDOT uses benefit-cost analysis methodology to systematically prioritize efficient solutions.

WSDOT benefit-cost analysis is based on measurable need and evaluation of life cycle costs and benefits. Measurable benefits can include reduced societal cost associated with the reduction or prevention of the number and/ or severity of collisions, and the reduction of travel delays. Preliminary engineering estimate of design and implementation costs for the proposed improvement which can include cost associated with design, environmental retrofit, right-of-way, construction, operation, and maintenance are examples of measurable costs. Alternatives evaluated in this RDP were evaluated in terms benefit cost analysis.

Costs applied in benefit/cost equation represent only those costs incurred by WSDOT. Funding provided by other agencies and/or private developers may be applied to reduce costs to WSDOT and consequently increase the project benefit/cost ratio. Under current WSDOT financial constraints funding is only considered for projects with a benefit/cost ratio greater than 1.0. A table summarizing present costs, projected costs, and benefit/cost analysis ratios for each evaluated alternative is provided in the appendixes.

Glossary

Eastern Region

***US 395* Route Development Plan**
Spokane to Stevens County Line

Alignment - The specific path a highway will take between two designated points within a corridor.

Average Daily Traffic (ADT) - The average number of vehicles that pass a specified point during a 24-hour period.

Capacity - Maximum number of vehicles (vehicular capacity) or persons (person capacity) that can pass over a given section of roadway in one or both directions during a given period of time under prevailing environmental, roadway and roadway user conditions, usually expressed as vehicles per hour or persons per hour.

Channelization - The separation or regulation of conflicting traffic movements into defined lanes of travel to provide safe and efficient movement of vehicles and pedestrians.

Comprehensive Plan - Developed by town, city and county jurisdictions to manage their future growth and economy while protecting the environment. Individual elements of most comprehensive plans include: Land Use, Transportation, Housing, Capital Facilities, Utilities, Economic Development and the Environment.

Congestion – Delay in traffic longer than that which is considered reasonable.

Corridor - One of several general paths which a highway can take to satisfy the route requirements and which has one or more specific alignment alternatives. A corridor can include, as a whole or in part, any existing state highway facility, county highway facility, city street, new alignments or any combination of these.

Directional Design Hour Volume (DDHV) - The traffic volume for the design hour in the peak direction of flow, usually a forecast of the relevant peak hour volume, measured in vehicles per hour.

Design Hour Volume (DHV) - The traffic volume for the design hour, in vehicles per hour.

Directional Factor (%D) - Percentage of design hour volume flowing in the peak direction.

Elevated Alignment - An elevated alignment may be on either a viaduct or a embankment. Continuous elevation of the freeway may be appropriate in level terrain where restricted right-of-way, high-water table, extensive underground utilities, close pattern streets that must be retained, or other circumstances make depressed construction undesirable and perhaps uneconomical.

Functional Classification - Defines the appropriate purposes of various highways in providing service and influencing development.

Frontage/ Local Access Road - An auxiliary road that is a local road or street located on the side of a highway for service abutting property and adjacent areas, and for control of access

Grade - The rate of ascent or descent of a roadway, expressed as a percent; the change in roadway elevation per unit of horizontal length.

Grade Separated Interchanges - A system of interconnecting roadways, in conjunction with one or more grade separations, providing for the exchange of traffic between two or more intersecting highways or roadways.

Hazardous Accident Locations - Spot locations less than a mile long which have experienced a higher than average rate of severe accidents during the previous two years. Each accident is assigned point based on its severity to provide added weight to fatal and serious injury collisions,.

High Accident Corridors - Sections of state highway one or more miles long that have a higher than average number of severe accidents over a continuous period of time. The same severity points rating scale (1-10) used for HALs is also used for HACs. The previous five years of accident data is analyzed in three-year groups.

Horizontal Alignment - The straight lines (tangents) and curves of the road.

Intersection at Grade - The general area where a state highway or ramp terminal is met or crossed at a common grade or elevation by another state highway, a county road, or a city street.

Intersection Improvements - provide obstruction-free sight triangles (often achieved through slope flattening, selective clearing or both), eliminate skews where possible, separate grades where possible, provide illumination and other enhancements to improve the safety characteristics of the intersection which may have the desirable collateral effect of improving the transportation characteristics of the intersection.

K Factor (%K) - Design hour volume as a percentage of Average Daily Traffic (ADT).

Lane - A strip of roadway designated to serve a single line of vehicles.

Level of Service (LOS) - The level of service is a measure of how well a transportation facility is serving the volume of vehicles using it. A descriptive measure of the quality and quantity of transportation service provided to users. Quantifiable characteristics such as travel time, travel cost, number of transfers, etc., are considered.

Median - The portion of a divided highway separating the traveled way for traffic in opposite directions.

Metropolitan Planning Organization (MPO) - MPOs were organized after passage of the 1962 Federal Highway Act which first formally legislated cooperation between state DOTs and local communities in urban areas. MPOs are authorized by the Governor to administer the federally

required transportation planning process in metropolitan areas with populations over 50,000. The MPO is responsible for the 20-year long-range plan along with allocating federal funds coming into their regions through the Surface Transportation Program (STP) and Congestion Mitigation and Air Quality (CMAQ) Program. The MPO is responsible for regional transportation planning in an urbanized area. The governor and local elected officials designate members.

Mile Post (MP) - A sequential number, in designated direction of travel, of 1/100-mile increments along a State Route.

Mobility - Ability to move from one place to another. As congestion increases, mobility decreases.

Objectives - Specific, measurable statements related to the attainment of goals.

Regional Transportation Planning Organization (RTPO) - A planning organization authorized by the Legislature in 1990 as part of the Growth Management Act/ The RTPO, responsible for coordinating transportation planning activities within a region, is a voluntary organization with representatives from state and local governments.

Right of way – Land owned by the state for the purposes of highway transportation facility construction and operation.

Roadway - The portion of a divided highway, including the shoulders, for vehicular use. A divided highway has two or more roadways.

Sight Distance – Minimum distance necessary for a driver to see conflicting traffic and take action necessary to avoid colliding with that traffic.

Traveled way – The portion of the roadway intended for the movement of vehicles, exclusive of shoulders and lanes for parking, turning, and storage for turning.

Vertical Alignment – Grade changes occurring along a roadway. Typically the vertical alignment attempts to use the natural terrain contours and geography.

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Endnotes

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[ii] Washington State Office of Financial Management . Change in Population, Housing Units, and land Area for Cities/Towns April 1, 1990 to April 1, 2000 (Table 9).

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[iv]US Canadian Border Crossing Study (1999); Washington State Department of Transportation, p.79

[v] WSDOT, Eastern Region, Access Management - *Access Control Classification*, June 1999

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[viii] WSDOT, 1996 Washington State Highway Accident Report, 1996

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Appendix A	Route Development Plan Contributors
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Appendix D	Existing Intersection Site Assessment
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